

# LITTELL'S LIVING AGE.

Fourth Series, }  
Vol. XXVII. }

No. 1483.—November 9, 1872.

{ From Beginning,  
Vol. CXV. }

## CONTENTS.

1. THE HIGHER MINISTRY OF NATURE, . . .	<i>London Quarterly Review,</i>	323
2. THE BURGOMASTER'S FAMILY; OR, WEAL AND WOE IN A LITTLE WORLD. By Christine Müller. Translated from the Dutch by Sir John Shaw Lefevre. Part VIII., . . . .	<i>Fraser's Magazine,</i>	340
3. ON PRAYER. By Prof. Tyndall and Pres't McCosh,	<i>Contemporary Review,</i>	351
4. OFF THE SKELLIGS. By Jean Ingelow. Part XX.,	<i>Saint Pauls,</i>	362
5. FRANCE AND THE EMPERORS, . . . .	<i>Saturday Review,</i>	372
6. AN HOUR WITH SOME OLD PEOPLE. Part I., Spring in a Workhouse. Part II., What we Talked About, . . . .	<i>Macmillan's Magazine,</i>	374
7. A NEW THEORY OF VOLCANOES, . . . .	<i>Spectator,</i>	382

## POETRY.

PRAYER, . . . . .	322	SONNETS, . . . . .	322
-------------------	-----	--------------------	-----

## MISCELLANY.

GERMANY AND DENMARK, . . . .	384	A MONSTER CANNON, . . . .	384
THE COLOR OF METALS, . . . .	384		

## NEW BOOKS.

A MANUAL OF AMERICAN LITERATURE. A Text Book for Schools and Colleges. By John S. Hart, LL.D., Professor of Rhetoric and of the English Language and Literature in the College of New Jersey. Eldredge & Brother: Philadelphia.

PUBLISHED EVERY SATURDAY BY

LITTELL & GAY, BOSTON.

## TERMS OF SUBSCRIPTION.

FOR EIGHT DOLLARS, remitted directly to the Publishers, the LIVING AGE will be punctually forwarded for a year, free of postage. But we do not prepay postage on less than a year, nor when we have to pay commission for forwarding the money; nor when we club THE LIVING AGE with another periodical.

An extra copy of THE LIVING AGE is sent gratis to any one getting up a club of five New Subscribers. Remittances should be made by bank draft or check, or by post-office money-order, if possible. If neither of these can be procured, the money should be sent in a registered letter. All postmasters are obliged to register letters when requested to do so. Drafts, checks and money-orders should be made payable to the order of LITTELL & GAY.

## PRAYER.

PRAYING to Thee, our wills do not require  
 That Thou, the Lord who doest all things well,  
 Guiding thy world by laws immutable,  
 Shouldst, when some wishes of our hearts sus-  
   pire  
 Thee-ward in faith, grant unto the desire  
 Of each man that which suits his own small  
   need  
 (Lest others' wishes fail if his succeed,  
 Being contrary); but lower will to higher  
 Can in proud meekness and strong helplessness  
 Yield, and own Law as girdling Destiny:  
 Thou, setting us within fixed bounds, didst  
   give  
 Great passive strength to human littleness,  
 Only we cry to Thee for *sympathy*, —  
 If Thou wilt *love* us, we can bear and live.  
   Spectator. E. D. W.

## PRAYER.

Or what an ensie quick necesse,  
 My blessed Lord, art Thou! how suddenly  
 May our requests thine care invade!  
 To shew that state dislikes not easinesse,  
 If I but lift mine eyes, my suit is made:  
 Thou canst no more not heare than Thou canst  
   die.

Of what supreme almighty power  
 Is thy great arm which spans the east and west,  
 And tacks the centre to the sphere!  
 By it do all things live their measur'd houre:  
 We cannot ask the thing which is not there,  
 Blaming the shallownesse of our request.

Of what unmeasurable love  
 Art Thou possest, who, when Thou couldst not  
   die  
 Wert fain to take our flesh and curse,  
 And for our sakes in person sinne reprove:  
 That by destroying that which ty'd thy  
   purse,  
 Thou mightst make way for liberalitie!

Since then these three wait on thy throne,  
*Ease, Power, and Love*; I value prayer so,  
 That were I to leave all but one,  
 Wealth, fame, endowments, virtues, all should  
   go;

I and deare prayer would together dwell  
 And quickly gain for each inch lost, an ell.

GEORGE HERBERT.

A GARDEN so well watered before morn  
 Is hotly up, that not the swart sun's blaze,  
 Down beating with unmitigated rays  
 Nor arid wind from scorching places borne  
 Shall quite prevail to make it bare and shorn  
 Of its green beauty — shall not quite prevail  
 That all its morning freshness shall exhale  
 Till evening and the evening dews return —  
 A blessing such as this our hearts might reap,  
 The freshness of the garden they might share,  
 Through the long day a heavenly freshness keep,  
 If, knowing how the day and the day's glare  
 Must beat upon them, we would largely steep  
 And water them betimes with dews of prayer.  
TRENCH.

LORD, what a change within us one short hour  
 Spent in Thy presence will prevail to make —  
 What heavy burdens from our bosoms take,  
 What parchèd grounds refresh as with a shower!  
 We kneel, and all around us seems to lower;  
 We rise, and all, the distant and the near,  
 Stands forth in sunny outline, brave and clear;  
 We kneel how weak, we rise how full of power!  
 Why, therefore, should we do ourselves this  
   wrong,  
 Or others — that we are not always strong;  
 That we are ever overborne with care;  
 That we should ever weak or heartless be,  
 Anxious or troubled, when with us is prayer,  
 And joy, and strength, and courage, are with  
   Thee?  
TRENCH.

Just as a mother with sweet pious face  
 Yearns toward her little children from her  
   seat,  
 Gives one a kiss, another an embrace,  
 Takes this upon her knee, that on her feet;  
 And while from actions, looks, complaints, pre-  
   tences,  
 She leads their feeling and their various will,  
 To this a look, to that a word disperses,  
 And whether stern or smiling loves them still;  
 So Providence for us high, infinite  
 Makes our necessities its watchful task,  
 Harkens to all our prayers, helps all our wants,  
 And e'en if it denies what seems our right  
 Either denies because 'twould have us ask,  
 Or seems but to deny, or in denying grants.  
 Felicja's Sonnet on Providence. Translated by  
 Leigh Hunt.

From The London Quarterly Review.  
THE HIGHER MINISTRY OF NATURE.\*

EVERY thoughtful mind, instructed in the aspects of modern scientific speculation, and solicitous for the safety of moral and religious truth, must desire the spread of sound scientific knowledge. The recent achievements of science are so fascinating, nay, romantic, that they must needs become matters of popular interest. Their poetry, their cosmical catholicity, their almost superhuman results, invest them with a perpetual charm for all who think. But it is undeniable that a clear knowledge of the principles of science, and a consequent appreciation of the true relations of current discovery, is not possessed generally by even the most cultured classes. Hence a bare statement of formula or fact, although expressing the sublimest discovery, would to the masses, have neither beauty nor force. To have meaning for them, it must be correlated to theory, strung upon hypothesis. This work, of necessity, fell into the hands of the speculatists in science; and thence have arisen the complexities of prevailing thought. We by no means imply dishonesty of purpose, we have strong reason to believe in the sincerity of these teachers; but we nevertheless urge that the manner in which hypothesis is made to wed fact, can be received only by those to whom, in their integrity, the data of modern science are unknown. The surest correction of these heretical speculations is a rigid knowledge of the facts; for it is not what science discloses, but the philosophy of its votaries, that threatens the foundation of religious belief.

Science proper is the exact interpretation of phenomena. It has no concern for the harmony or discord of these with the canons of either metaphysics or theology, much less with efforts to prove harmony impossible. Its work is to grasp and accumulate the facts of the universe until they axiomatically group themselves into inevitable "laws." Nature thus dis-

closes her own meaning, and mind perceives, does not invent, the correlations of phenomena. But profound and eager students of Nature, not content with interpreting to us the latest utterance of their great instructor, *interpolate*, tell us what they think the following sentences will be. Doubtless this has been done at times with a splendid penetration that has reflected the utmost glory upon the human intellect. Nay, there are limits within which it is invaluable. But to the audience outside themselves, which scientific men seek to reach, the interpolation and the text should be distinguished. Their separate values should be frankly given, and the suppositions should relate to sequence, not to phenomena — to laws, not to facts. But this is too much lost sight of in the brilliant speculations of our day. Data real and data hypothetical are placed side by side. There is no attempt at distinction, and the whole are marshalled at the dictates of a philosophy by means of which science negatives the possibility of all but itself! It becomes, therefore, the duty of the Christian philosopher to separate the known from the hypothetical, the real from the ideal; to disarm the ruthless theorizer, by enabling the thoughtful and truth-seeking to distinguish between what Nature has disclosed and what is merely the invention of imaginative minds; to front fearlessly the latest triumphs of research prepared to show that these disclose profounder lessons than the highest science can reach; that Nature has a "higher ministry," without which, even after science has drawn from it its latest truth, it would be devoid of its noblest meaning. This is the object of the book before us. A timely, and, in many senses, a rich contribution to the mental necessities of our times, it is the work of a mind comprehensive in its grasp, deep in its sympathy with nature, and strong in its love of truth. Its scope is broad, embracing the physical, the metaphysical, and the metaphysiological, in their most advanced and completed forms, comprising, on the one hand, the largest questions possible to thought, and, on the other, the minutest details of the latest research. The reasoning is clear

\* *The Higher Ministry of Nature, Viewed in the Light of Modern Science, and as an Aid to Advanced Christian Philosophy.* By JOHN R. LEITCH. A.M. London: Hodder and Stoughton. 1872.

and strong; and the style, although occasionally florid, is in the main graceful and pure.

The author takes up his position under circumstances that entitle him to a fair and impartial hearing on either side. He is known to science as a writer on geological subjects whose contributions deserve the highest respect, while his right to be heard by theologians is manifest in the conservative, yet purely philosophical, spirit in which theology is treated.

With the earlier chapters we are not so immediately concerned. They conduct us naturally to the essence of the theme, reminding us of the fleeting nature of human life and experience in comparison with the enduring nature of the universe. Hence the importance of learning to the utmost what Nature has the power to teach. It is urged that Nature's ministry is two-fold,—a lower and a higher, a utilitarian and an ethical. By the one she "subverses our present individual and collective interests, makes highly civilized man what he now is, and promises to make him more than he now is, and place him on the highest eminence of physical attainments.\*" By the other, "She serves us as a handmaid to religion, and becomes our servant in showing herself to be the servant of God.†" It is confessed that they are intimately linked, but we prefer to consider that Nature has no ministry *but* the higher; that in her affluent response to man's personal needs, and in her aids to his physical elevation, as well as in her appeals to his highest mental nature, her ministry is one. It is selfishness that has broken the rhythm and unity of her teaching. Man has luxuriated in her boundless beneficence to *him*, until his mind's eye has become dull to the gentler breathings, which, through his intellect, were meant to link him with the Mind from whence all being sprang.

To those who are eager to exclude the Deity from the universe because He eludes their method, because they cannot find Him as they find an absorption-band in a stellar spectrum, of course Na-

ture has no ministry but what is brute, no beauty that is real. But this is not philosophy, for it ignores the mental characteristics of the philosopher! It generalizes with some of the largest facts omitted. It is content wholly to omit the consciousness of humanity, and to treat with contempt the necessary laws of thought. Mind everywhere is conscious of the ethical in Nature, otherwise the largest proportion of its meaning is lost. To what end the sublimity, the majesty, the glory of nature? Whence the unuttered perfection of its minutiae, and the boundless magnificence of its whole? If Nature makes no appeal to mind, why are the purest displays of her beauty within its reach, yet defiantly and for ever beyond the grasp of unaided human vision? Why has the invisible crystal such entrancing grace of form? To what end the chasing on a diatom which requires our highest optical aids to discover? Why have some of the minutest animals in nature a sculptured beauty which the most artistic conception cannot surpass? Is it not Infinite Intelligence appealing to its finite kindred? Matter is the thoughts and activities of the Unbounded Mind taking visible form. Like poetry, music, sculpture, it is a language; and to understand it a like intelligence was formed. We may engender a deafness to it, we may become specialists, we may suffer an unequal development of our nature. In studying the mere framework of creation, we may blind ourselves to its soul, as an organ may be analyzed or constructed by those who have no faculty to evoke its music. But it need not be thus. Some of the most accomplished experimentalists and investigators in every department of science are not only devout students of nature, but simple and confiding Christians. We speak of what we know. Then, is not our volunfary or tolerated indifference culpable? Are we not responsible for a gift so large as that which Nature offers? This is a question to which Mr. Leifschild carefully replies:—

"The term ignorance, if strictly used, can only be applied with reference to that which may be known, for the term nescience properly expresses that which is beyond the possibility

\* Page 9.

† Page 24.



of knowledge. In truth, there can really be an ignorance only of that of which there can be a knowledge. 'The ignorance,' says Ferrier, 'which is a defect, must not be confounded with the nescience of the opposites of the necessary truth of reason; in other words, with a nescience of that which it would contradict the nature of all intelligence to know. Such nescience is no defect or imperfection—it is only the very strength or perfection of reason.'

"Ignorance which is remediable is morally culpable, and more or less culpable in proportion to the importance of the object of knowledge. Of many things we may continue ignorant which it would be of some advantage to know; of other things we may be ignorant which are of the highest moment, and if we remain voluntarily ignorant of them to the end, such ignorance is culpable in proportion to the importance of its objects.

"Now in this light ignorance of what may be learned of the Divine Being and His designs in the world around us appears to be voluntary and culpable; voluntary in proportion to the amount of light and knowledge capable of being discovered in the natural world; and culpable in proportion to the value and elevating influence of such knowledge on the mind in relation to God. Moreover, this culpableness increases in proportion to the bearing which all such knowledge has on our condition in a future state; and if we extend our ignorance voluntarily to what belongs to the state of the soul in the next life, then we become responsible for all that we may there have to endure."—Pp. 28, 29, 30.

This opens to us the whole question of knowledge—what it is possible to know, and what is "unknowable." And here, considering the importance of the question as it bears upon modern scepticism, we discover a serious defect in this treatise. The author declines to discuss it: he launches from phenomena to faith; and, in a book designed to display the reasonableness of faith in the light of modern science, we think this a deficiency. The subtlest scepticism of the age proceeds on the assumption that the reality, the absolute existence of things, is unknowable; that we can never know more than the relations subsisting between things unknown. We neither do nor can know anything but phenomena, and these but relatively. They are observed to occur unwaveringly in the same order, and our

knowledge of this furnishes their "laws;" but this is all. Things, realities, we never reach. Hence the existence of mind or matter, God or self, cause final or cause efficient, lies defiantly beyond us: it can never be known. But the major difficulties which this subtle system brings with it arise from confounding the knowledge of the nature of a thing with the knowledge of its existence. We may know that a thing is without knowing what it is. To suppose that mind can confine itself to a mere succession of phenomena evinces the utmost weakness. Its fallacy is shown by the reasonings and hypotheses of the Positivists themselves. "Positive knowledge," says Herbert Spencer, "does not, never can, fill the whole region of possible thought. At the uttermost reach of discovery there arises, there must ever arise, the question, 'What lies beyond?' As it is impossible to think of a limit to space, so as to exclude the idea of space lying outside that limit, so we cannot conceive of any explanation profound enough to exclude the question, 'What is the explanation of that explanation?' Throughout all future time, as now, the human mind may occupy itself, not only with ascertained phenomena and their relations, but also with that unascertained something which phenomena and their relations imply."\* Huxley admits that the term positive, when used to signify a system of thought which knows of nothing beyond observed facts, "never did exist and never will."† Thus this philosophy sets out with canons which it is compelled to admit that the common consciousness of man repudiates. Thought will not be contracted within the limits of material phenomena. As to mind:—

"Stone walls do not a prison make,  
Nor iron bars a cage."

Neither do material phenomena erect a barrier beyond which, within proper limits, it may not legitimately range. A reflection implies something reflected, and it is an immanent act of mind to refer phenomena to something. Appearance implies something appearing, and from this

\* *First Principles*, 16, 17.

† *Lay Sermons*, 178, note.

implied somewhat, as separately existent, the new philosophy cannot free itself. Professor Helmholtz has recently endeavoured to prove the relativity of knowledge: to show that what is axiomatic with us may be false in another sphere. We live in space of three dimensions, but we can conceive, he says, intelligent beings living and moving on the surface of a solid body, able to perceive nothing but what is on its surface, and insensible to all beyond it. Theirs would be space of two dimensions. If their surface were a plane, the axioms of Euclid would hold; if a sphere, they would not hold. The axiom that there is only one shortest line between two points would fail, for between two points diametrically opposite an infinite number of shortest lines, all of equal length, might be drawn. On an ellipsoid two triangles having their three sides equal each to each drawn on different parts of their space would not have equal angles, and so forth.\* But is it not clear that this very reasoning appeals to more than the phenomena? It calls in inference, experience; something underlying the facts, and to which the facts are such. The impalpable beings on an ellipsoid must infer relations in space and number. It must be so in every walk of science. The profoundest and most exact sciences depend for their exactness, not on phenomena, but on inference — something that eludes discovery. There would never have been a geometrical demonstration to this hour, had it depended on phenomenal truth. A straight line is impossible as a fact. A circle has no existence as a phenomenon. The whole science of mechanics rests upon that on which no eye has ever looked, uniform force and rectilinear motion. Mathematics and mechanics are built up by inference — i.e., by an agency denied by the modern philosophy to all knowledge! Lord Brougham affirms, "of the two existences, that of mind, as independent of matter, is more certain than that of matter apart from mind."† At least it is clear that if mind and matter be alike unknowable, the certitude of the one is equivalent to that of the other.

To confound me with *life* is weakness. I *possess* life; it is mine. To tell me that thought is existence, and existence

thought,\* is simply to contravene my consciousness. There is something beyond thought, to which thought is, and in which it inheres. It is *I*, myself, who am thinking. I realize myself as distinct from all within and around me; a recipient and voluntary *ego*. Thought changes, emotion changes, that which environs me changes; but my conscious self changes never. Every operation of mind proves it immutable. When reason operates, it is *to me*; when judgment is exercised, I am conscious of it as *my* judgment. They cannot be severed from the conscious self. It defies my comprehension, but I know it is there. No subtlety of reasoning can annul it. Even if it were admitted that all the activities of mind are phenomena of *matter*, they must be phenomena to something. They cannot be manifestations to themselves; what discovers them? If thought be mere physical impression, it is impression perceived. Otherwise, Labyrinthodon foot-prints on the Triassic rocks would be consciousness. But if thought be impression cognized, there must be something that can cognize. Chemical affinity, heat, electricity *are* these, and nothing more. They may be capable of refinements which we have not yet approached; but they can only be refinements along the line of their own nature. For ever they must affect a percipient agent to be perceived. This remains true even in the grossest materialism. If "thoughts result from the movements of matter,"‡ there must be that to which thoughts are, and *by* which they are perceived. If "thought bears the same relation to the brain as bile to the liver,"§ the very statement involves the separate existence of the conscious *ego*. The liver is unconscious of its secretion. There is no ultimate consciousness to which bile is secreted, and by which it is perceived. But however mental phenomena are produced, they are to, for, and under the control of my conscious self. Indeed, we not only perceive, we create mental acts. They are subject to our volition. If thought be molecular change, it is under my control, and can be played upon as an instrument. So that when Professor Huxley says, "strictly speaking, the existence of a 'self' and of a 'not-self' are hypotheses by which we account for the facts of consciousness,"§ he makes a statement wholly adverse to the experience of mankind. It carries him beyond Descartes;

\* The fallacy of this reasoning Professor Jevons has clearly shown. It proves only that conditions can be conceived in which our geometry would not apply — not that the axiom and demonstrations of Euclid are false: they are true eternally, although they may not correspond to all conditions. Applicability and falsity are essentially different.

† *Nat. Theol.* 57.

\* *Lay Serm.* Huxley, 366.

† Moleschott.

‡ Vogt.

§ *Lay Serm.* 369.

for him the dictum "I think, therefore I am," sufficed. Hence Huxley seeks to invest it with a new meaning. "In the first place, the 'therefore' has no business there. The 'I am' is assumed in the 'I think,' which is simply another way of saying, 'I am thinking.'"<sup>\*</sup> This is neither what Descartes said nor what he meant. "Thought is — to me — therefore I am." "Thought is — is recognized, apprehended — therefore that which knows it, and which we call 'self,' exists;" this was his meaning. The difference between a name and an affirmation the Professor wholly neglects. Thought is a mere name. "Thought exists" is something affirmed. To suppose an affirmation with nothing to make it, is equal to supposing penetrable impenetrability. You cannot name thought until you have made an affirmation concerning it; and, therefore, the very name of thought implies the thinker. To know, is not to be knowledge, but to have it. Huxley admits the absolute existence of thought; "it cannot be doubted, for the very doubt is an existent thought." Equally certain are we that thought is *realized*. The thought is: the I perceives it; therefore both *ego* and thought are certainties. Even Mr. Mills' subtle definition of the agent cannot elude this. It is "a series of feelings, with a background of possibilities of feeling."<sup>†</sup> But we can have no series of feelings apart from that which, being distinct from the feelings, feels; any more than we can have a series of motions apart from that which moves. To describe light as a series of vibrations, simply, would be absurd. There must be *something*, the great desideratum of modern science — ether. Possibilities of feeling must be possible to somewhat. And this is not altered by changing it into a "series of feelings which is aware of itself as past and future."<sup>‡</sup> A series of magnetic currents adds nothing but number to the first of the series taken by itself. If the "series" be known as such that which is "aware" of them must be itself other than they are, and equally existent. And when Herbert Spencer seeks to invalidate this position by asking "if thought must be to something which, perceiving it, necessarily exists; to what does that something exist?"<sup>§</sup> we answer, to *itself*. Thought and consciousness are wholly different; consciousness is not such if it be not *self-conscious*.

Then, is it not clear that at the very out-

set we have a certitude of the existence of self? Then from this we may rise to the certitude of things beyond us. I act from within outward: I am re-acted upon from without inward. We know absolutely the difference between acting and being acted on; and we know that it is to be found, not in the changes wrought, but in the *cause* of them. The certainty that my action is the result of an entity — self — leads me to an equal certainty that that which re-acts on me must exist. They are both real, the inward and the outward. When, therefore, we are told that we are conscious of phenomena, and nothing else, it is simply a sophism, and not a truth. It has not been, and cannot be, proved that they are not the appearances of the actual and the real. True, we only apprehend this reality, we do not comprehend it; but this is no negation of verity. Whence we are assured of two things — our own existence, and the existence of reality beyond us. Wherefore, so far as these things are capable of teaching us the Divine, if we do not learn it we are culpable. Our responsibility in this direction is as real as that higher responsibility pertaining to the spirit. It applies, not only to men of science who wilfully ignore it, but to Christians, who too often neglect, or even despise, the sublime revelations of Nature. As if there were conflict between the intellectual and moral features of the Godhead, they suppose themselves concerned only with the latter. But all nature is a manifestation of Deity, and, if it be good to find Him at all, it must be better to find Him to the utmost. The purest and most absolute devotion — devotion the broadest and fullest in its meaning — springs from the heart in unison at once with Nature and with Nature's God.

We are thus brought face to face with the all-important question of the existence in the universe of purpose, design, prospective harmony. Is this an entity? or is it something merely reflected *into* Nature by the mind of man? Mr. Leifchild's chapters on this subject are clear, eloquent, and well-reasoned; but they scarcely reach the limit of difficulty which the question in its modern phase presents. It is undoubtedly a truth from which we can never escape — one of the foundations of our intellectual nature — that when we see matter not only disposed in a certain order, but having perfect adaptation to the accomplishment of a clearly discoverable end, it is simply impossible to elude the conception of a designer. This is a common intuition of humanity. But the phenomenal philosophy prefers to exclude all

\* Lay Sermon, 360.

† Exam. Sir W. Hamilton's Philos. Chap. XI.

‡ Ibid.

§ First Princip. p. 65.

but phenomena, and therefore this immanent inference of mind is refused. But why it should be, any more than the admission of the axiom that the whole is equal to all its parts, is by no means clear. These philosophers claim that the unvarying sequence of phenomena establishes a law. But they dare not import the idea of *stability* or *necessary* sequence into it. Their philosophy affords no grounds for expecting the combining proportions of sulphate of zinc to be the same to-morrow as they are to-day. Yet they vilify their own logic; they deal with them as stable. They are constantly betrayed, both in reasoning and practice, into the assumption of something more than sequence in their conception of law. This is simply inference; the very thing objected to in relation to "design." How completely the adaptation of means to ends fastens itself upon the mind, may be seen in Mr. Darwin's own record of his exquisite studies. In spite of all efforts and all theory he finds it impossible, to avoid such expressions as "contrivance," "beautiful contrivance," &c. He is constantly abutting against arrangements that were made "purposely" and "in order to" some ulterior end.\* What right, then, has science to refuse to mind its normal action? What justifies him in confining attention to mere succession, and refusing all the essential inferences of intellect? He would tell us that an adapted instrument in Nature was not intended *for* the end it answers, but that the accomplishment of that end is merely the *consequence* of its existence. But we see more than the accomplishment of the end; we perceive adaptation for this object. We cannot suppress the mental consequence of this any more than we can bring ourselves to believe that two atoms can occupy the same space at the same time.

We are told that we have no knowledge of the mind of the Infinite Designer; it lies defiantly beyond us, and therefore we cannot infer design. Then it inevitably follows that I can infer design in no being in the universe save myself! I *know* no other mind. I can only *infer* the aims of my fellow-man by his doings. All nature is a blank as to purpose; the beaver builds a dam, the bird builds a nest; beaver mind and bird mind are for ever beyond me. I have no right whatever to infer that what they have done they meant to do. Geologists find flint chips rude and polished in the drift. These show design,

and it is claimed that they have had an intelligent origin, and prove the antiquity of man. But if the teachings of current biological philosophy were true, it would be rendered possible that they might have been the product of a brute on his biological way to manhood. We know nothing of the *mind* of such a being; then, according to the positive philosophy, we have no right to attribute purpose. Will Sir J. Lubbock and Mr. Taylor close the whole question of palæolithic man because they cannot argue design? No. It is enough for them that *there is evidence of purpose*; and although they can give no proof of mind in the producer but such as that which it has produced exhibits — they see adaptation and they argue an adapter. And why not in Nature? We do not need to know the mind; we judge only from its works. Mr. Lewes says that the potentiality involved in design does not exist. There is no idea until it is accomplished! He admits that the plan of the human architect must precede the building, "because the materials have no spontaneous tendency to group themselves into houses."\* But this "organic materials" have; wherefore no design is needed! But does the possession of a spontaneous tendency to group themselves explain that tendency? It is a simple *petitio principii*. What are "organic materials?" The very organism is part of the plan; the means by which the end is accomplished. He lays great stress on the fact that if the ovum of an animal is to produce a normal form, the "requisite conditions" must be observed. If not, abnormality is the issue — *i.e.* the plan is not observed; and therefore there could have been none! But would any different issue follow if the human builder did not observe the conditions imposed by the plan? The plan could never have been formed had not the designer known the conditions of existence and foreseen every modifying cause. These are parts of the plan: if you alter them you interrupt, *not* the design, but merely the circumstances which made it possible. This undoubtedly involves us in "cause;" but we need not shrink from a mental necessity, nor seek to explain it away. It is an ultimate fact. But it does not involve us of necessity in "final cause." To us there need be no final cause in the whole realm of nature. Put "prospective harmony" in its place, and some of the largest difficulties of modern thought would be met. With the knowledge we

\* Duke of Argyll's *Reign of Law*.

\* *Hist. Philos.* Vol. I. lxxxv. Fourth Ed.

possess we have no right to infer *final* purpose; but we cannot avoid perceiving present adaptation. But we may interpret this falsely. Thirty years ago the sole method of argument, inference, and generalization in zoology was the comparison of adult forms with each other in gradational series. From this, fundamental arguments of structure were supposed to be seen, and teleological inductions were made. But the study of embryology has shown the greater part of these to be false. What was claimed as the ultimate end of an organ is shown not to be so; and because of this the whole argument of design is treated with contempt. But in reality all that is needed is to go further back with the argument, as the anatomist has gone further back for his facts. One of the profoundest embryologists living is W. K. Parker, F.R.S. His recent labours enrich the records of the Royal Society, and are a monument to the powers of mind. We are not concerned with his theory—he believes that creation was progressive and developmental—we are concerned alone with his facts. He says:—“As far as we know at present, the life of each individual of a high type is a repetition of the evolutionary progress in the ascent and modification of the vertebrate forms from the beginning.”\* And, after a laborious examination of the skull of the common fowl down through each successive stage to the very earliest, he says, “I seemed to myself to have been endeavouring to decipher a *palimpsest*: and one not erased and written upon again just once, but five or six times over.”

“Having erased, as it were, the characters of the culminating type—those of the gaudy Indian bird—I seemed to be amongst the sombre grouse; and then towards incubation the characters of the sand-grouse and hemipod stood out before me. Rubbing these away in my downward work, the form of the tinamou looked me in the face; then the aberrant ostrich seemed to be described in large archaic characters; a little while and these faded into what could just be read off as pertaining to the sea-turtle; while underlying the whole, the fish in its simplest myxinoïd† form could be traced in morphological hieroglyphics.‡ But is there no teleology in this region? After speaking of the wonderful adaptation of one of the facial arches§ in humming

birds and woodpeckers, he says, “we will study *form* free from all final purpose, bias and preconception; but a new and delightful phase of teleology will set in when the laws of form have been mastered;”\* and remarking on the way in which these embryonic arches are “gently specialized for life function,” he says, “it was the first pair that most struck me with the beautiful prospective harmony between morphology and final purpose.”† Now let Mr. Lewes speak, whose determined opposition to revealed religion is as constant as it is fierce. He says: “What rational interpretation (on the supposition of a creative plan) can be given to the succession of phases each embryo is forced to pass through? [The reader] will observe that none of these phases have *any adaptation* to the future state of the animal, but are in positive contradiction to it; or are simply purposeless. Many of these have no adaptation even to the embryonic state.”‡ Such utterances are to be reprobated in the strongest manner; they are false. There is not a shred of science in them. The most accomplished living embryologist shall attest. “The highest type—the human—passes through every stage of morphological structure seen in the series beneath: it does not stop at these stages; it does not utilize, so to say, the incipient structures that are ready to be used, but runs rapidly along its own line, *choosing as it were and refusing*, until at length the perfect man is attained. Yet this perfection of parts, this production of a creature who in his lowest attributes is the ‘paragon of animals,’ is not brought about irrelatively to the rest of the creation; it is merely an *elective consummation* of all that is *highest and best* in morphological structure. Does this exclude teleology, or the fitness of every part to other parts, and to the rest of the world? I think not.”§ Precisely so: an elective consummation of all that is highest and best. Whether you accept development or direct creation, you cannot strike design out of this. You push it further back; you make it more profound. Nor does it involve man’s evolution from a lower form. We refuse on logical grounds to admit that the ape was our progenitor. What was valuable in the ape and in all below him was “elected” by the Great Creator in the struc-

\* *Monthly Microscopical Journal*, Vol. VII. p. 97.

† *Hagfish*.

‡ *Philos. Trans.* 1870. pp. 803, 804.

§ Arches in the embryo head out of which the skull, face, jaws and hyoid are formed.

\* *Monthly Jour. R.M.S.* Vol. VI. p. 213

† *Monthly Jour. R.M.S.* Vol. VI. p. 213.

‡ Mr. Darwin’s Hypothesis, *Fortnightly Review* 1868.

§ *Microscopical Journal*, Vol. V. p. 204.



ture of our frame. The reason why there is a graduated similarity of structure in all vertebrates, is that they have similar work to perform. The law of "least action"—that of accomplishing the desired end by the most perfect means, is the law of nature. So far as the *same end* was to be answered in any vertebrate, it would be accomplished by the same means. Hence there must be uniformity of skeletal structure. The skeleton of an ape is pre-eminently adapted to its work. So is that of man. What is common to both is essential, for it does work in common. There is no reason for the inference, that, because the cranial bones of a monkey bear a morphological resemblance to those of man, therefore the one gave birth to the other. But we do see that modern embryology finds itself anticipated in the song of the Psalmist:—

"Thine eyes did see my substance *yet being imperfect*,

And in thy book *all my members were written*,

Which in *continuance* were fashioned,  
When as yet there was *none of them*."\*

When none of my members as a human being were formed, they were in the Divine Mind—fashioned in continuance of preceding forms—"Elective Consummation," leading us to perceive that the exquisite adaptation in our whole being proves us "fearfully and wonderfully made."

We have been led to this course of reasoning, because it involves the subtlest questions which modern biology presents; and those least understood. And it is a phase of the argument not discussed by Mr. Leifchild. But we earnestly recommend our readers to make themselves acquainted with the masterly and eloquent pages which he has written on this subject. So far as they reach, they prove that purpose and prevision are everywhere visible in nature. Wherefore, reaching from effect to cause, we arrive, at length, at a FIRST CAUSE. Arguing from phenomena to the realities they enfold, we come to the boundless Power that gave them being. Passing up through the forces of the universe, we are led at last to the Omnipotent *will-force* that directs them all. While inferring, from the infinite harmonies of the Cosmos, the perfect adjustment of its parts to their purpose, and the agreement of each with the whole, we perceive that that from whence it was all derived

must have been ONE INFINITE MIND; and all this affords us the ennobling promise of an ever-widening grasp of His Boundless Nature.

But at the very threshold Philosophy meets us, and declares the Godhead inscrutable to the human mind. If there be a God, we cannot know Him. The Infinite, the Absolute, are concepts that bristle with contradictions and become impossible to thought. Mr. Leifchild challenges the reasoning on which this inference is based, and disputes, chiefly with the acknowledged weapons of others, the entire question. It is shown that the high reputation of Sir W. Hamilton gave wide currency to this view, and that its adoption and specific expansion by Dr. Mansel, although nobly meant, was ill-founded.

One of the devices of Philosophy most to be dreaded is the assertion of ignorance with the assumption of knowledge. This may always be premised when it is asserted that we must necessarily employ words of whose meaning we know *nothing*; for this is purely an assumption. They are positive concepts, or their constant employment would be impossible. In spite of affirmed ignorance the most complete, both Hamilton and Mansel define both "Absolute" and "Infinite." "By Absolute is meant that which exists in and by itself, having no necessary relation to any other being." It is "that which is aloof from relation, comparison, limitation, condition, dependence, &c." Now to suppose such a conception knowable in its fulness, would be absurd. We know not in what it inheres. It is a concept merely, not an entity. Whoever distinguishes the universe from God; whoever separates the vast concatenation of matter from its Creator, must submit that by the very production of being other than His own, He has chosen to condition Himself:—to place Himself in relation. For this reason *The Infinite, The Absolute* cannot be conceived by us. That which our minds embrace is an Absolute and Infinite *Being*. Because I exist and *know* that I am not God, therefore the Creator is conditioned. He is beyond my comprehension, but I must know *something* of Him, or the conception of His existence would never have arisen within me. It could have had no place in my mind. To assert that we cannot know Him is to know something concerning Him.

If by *The Absolute* we mean *The All*,—the ideal everything that is or may be,—of course we cannot approach it: it teems with contradictions to us. Even consciousness could not attach to it, for this would



condition it. But, we repeat, this is a mere abstraction, not the perception of an objective existence. It is utterly unlike what *must* be our concept of the Infinite God. We attach a perfect meaning to the word infinite; although it is an idea which it is impossible to complete. We do not merely mean by it the unknown; and the something we do mean profoundly interests us. Indeed, we can *only* mean by it that which extends beyond all we know or can think of, and then still further. The limit can always be made to recede before us, but only by a succession of mental shapes. If it be objected, that this confounds the *indefinite* with the infinite, the answer is, that the indefinite is something of which we cannot affirm whether it extends beyond some conceivable limit or not: the infinite is that of which we can say it extends beyond all conceivable limits. Thus the idea infinite, is distinguished from all other conceptions, and the Infinite God becomes a definite object of knowledge. It must ever be limited, but it is clear. We cannot explain; we can conceive. We do not comprehend; we apprehend.

Thus, then, the Infinite Source of the universe is accessible to the mind. But can He be a Person? Infinitude and Personality are declared contradictory and unthinkable. It is said the one is conditioned, the other not. "Yet, as distinct Creator, he must of necessity be a separate personality. If we refuse personality to Him, we relapse into Pantheism; if we doubt His infinity, He ceases to be the Creator, in not being co-extensive with creation."\* "What love can we cherish for an impersonal, universal substance? Before we can feel human love for God, we must surely apprehend Him as love personified."† Nevertheless, our author has no logical support for this claim. He implies that personality is an attribute of a being having mind and body. "If we affirm that God is incorporeal, we seem at the same time to affirm that He is impersonal! . . . We know that the Infinite Mind transcends the limits of any finite personality;"‡ and he seeks simply to apologize for the doctrine by an appeal to "a refined and elevated consciousness." Yet he admits that "it may be wholly indescribable in human language, without being inconceivable by human thought."§ We affirm, that there is nothing more inconceivable in a Personal Infinite than in an Infinite alone. Omnipresence does not

nullify personality. Space is no *necessary* concomitant of our conception of presence. We can conceive ourselves a thousand times as large as now; if so, why not a million times? Why not any size we please? Size is a mere accident to personality. A body as large as the universe involves no negation of it. At what point will it become incongruous between this and infinity? Again, what is personality or personal presence in ourselves? Is it in every part of the body, or limited to a region? Is its "position" a mathematical point in the brain, or a certain cubic space? The very question shows, that what we mean by personality is not position, limitation—but immediate control over the contents of any space. If I could separate the metals from the earths in Jupiter, or work machinery by the water-courses in Mars, although my body remained on the earth, I should be as personally present there as here. Position is a secondary matter, involving the whole question of space and time. Personality destroys The Absolute, The All; but the same may be said of wisdom or truth. But our concept of the Infinite God is no more destructive of personality than it is of purity or power. He is the Great Will of the Universe, and the only idea of will we *can* have is, that it is the will of a person. Thus reason heralds faith, and faith opens to our higher nature the supremest object of its love.

Having reached this point, intellectual schemes explanatory of the universe and its cause are considered; and the Mathematical Pantheism of Spinoza is placed beside the Monadology of Leibnitz. The former presents us with a God who is the Infinite Substance of which bodies and souls are merely the modes. God and the universe are one. Separation between them is an abstract effort. Material forms are not His manifestation, they are His life, His very self. Everything is the substance of God. He is extended, yet incorporeal; thinks, but without understanding; is free, without will; an unique substance, but without personality; ever known, yet unknowable; infinite, yet finite; the author of nothing but good, yet it co-exists with evil; at once His infinite self, and His creature. He "sleeps in the mineral, dreams in the animal, and wakens into consciousness in the man." Thus the very framework of Pantheism is contradiction. It is the Absolute, constrained by law! Substance is the *cause*, yet there is that outside and above it by which it is compelled! Law subserves substance, yet

\* P. 131. † P. 140. ‡ P. 145. § P. 141.

substance has no intelligence to produce law!

Leibnitz, sought, by a method which he purposed to be equally rigorous, to refute this, and give to the individual its philosophy in relation to The All. The elements of the universe were monads — simple unextended forces — in which the idea of substance rests. Some have no perception, and form the material world; others have mere vitality, as in the brute; but others yet are the self-conscious souls of men, bearing in themselves the fountains of necessary truth. But there must be a sufficient reason for the existence of all these, and that is, the One Supreme Infinite, the *Monas Monadum*, the cause and explanation of all that is. Every monad was launched into being with a determinate eternal history. "From the given state of any monad at any time, the Eternal Geometer can find the state of the Universe past, present, and to come." There is no interaction between soul and body, but simply pre-arranged harmony; and the end of the scheme is the disclosure of Divine Perfection. Thus, in striving to give a place to the individual, the theory virtually destroys an external world, and robs us of our moral nature. Neither system meets the necessities of mind; while between the Pantheism of Spinoza and Atheism there is but a verbal difference.

In spite of this, Pantheism is the fountain that pours out the streams of current sceptical thought. Its subtleties repeat themselves in a thousand forms: but substance and modes, subject and attributes, include all that can be, while causality is utterly excluded. Evolution, natural selection, physico-chemical theories of life, and the molecular origin of thought, are all the outcome of its fascinations. It is an intense effort to unify every agent and activity. Creation is treated with scorn; and "evolution" is set up in its place. The chapters on this and cognate subjects are the most brilliant and masterly in this book. They expose triumphantly the tissue of subtleties by which hypotheses are deified and Deity ignored. Diverging somewhat from Mr. Leifchild's path, we will discuss it. What is the meaning of nature? What was its source? Did it spring from a self-developing power inherent in matter? or is it the product of an infinite and intelligent mind? Our prejudices apart, can *law* construct the universe? What is law? "It is the invariable relation between two distinct phenomena according to which one depends on another."\*

Clearly, then, it is not a power. It is neither intelligent nor volitional. It is neither self-originating nor self-sustaining. It is purely "a method of intelligent agency."\* To us laws are nothing but formulæ. They express, of necessity, the modes of action of an actor behind them. They are not that which rules nature, but the method by which it is ruled. "Creation by law" can have no meaning unless as the expression of what we are able to observe as to the methods by which the Omnipotent created. Shift the ground by declaring that it is an activity impressed upon matter; still it exists *outside* matter and is dependent upon Divine energy. To attempt, therefore, to use the expression as equivalent to creation without God, is sophistry. The taunt that God's government in person involves "incessant interference," and is unworthy of His nature, is meaningless. It originates with the opponent; it has no place in our conception. The Omnipotent can never "come between the sequences which He Himself has pre-ordained; never can there be any necessity for interference — less still for incessant interference — when the Omnipotent is executing by law His own designs, and accomplishing His ulterior purposes."† To God there is no distinction between the natural and the supernatural. The creation of the first oak, however accomplished, was no more *supernatural* than the operation of the laws by which our forests grow. He acted by law then; He acts by law now. This, of course, involves a *self-existent* Creator: but which is easier of conception, a self-existent Creator or a self-existent universe? Then, if He created at all, He created all things. "Special creations" of successive types is a mere complication. God created all things by method: and the repetition of this method would be no more beneath the dignity of Deity than the first act. Admit the Creator, and His plan you cannot question: and in spite of the supremest subtlety — the veriest witchcraft in language — no system yet devised can elude Him. Evolution is the doctrine on which modern scepticism is building. But what is its foundation? Our author shows triumphantly that it involves an evolver; although he does not analyze its logical claims. What is evolution? "A change," says its chief exponent, "from an indefinite, incoherent homogeneity, to a definite, coherent heterogeneity, through continu-

\* Lowes, *Hist. Phil.* II. 701.

\* P. 243.

† P. 247.

ous differentiations and integrations."\* This, mark, is the God that is to produce the universe. Let us seek to grasp it. The homogeneous has no differences of parts. If its ultimates be atoms, they will be alike, their distances uniform, and their states of rest and motion coincident. Its parts neither attract nor repel — they are inert, and therefore no portion of the mass can possess function not possessed by another and equal portion, and no shape but that of the ultimate atoms. This is the absence of all development; it is chaos. But if some portion begin in any sense to differ from the rest, this is the first step in evolution. If it continue, the homogeneous will cease, and the heterogeneous will ensue, and diversity of form, quality, and function will result. This is evolution; all its products being inter-locked by one vast law of unity. Now, granting that all nature sprang from a gigantic uniformity, does this explain it? Is it not infinitely more difficult to believe that its heterogenesis was causeless, than that it arose from the volition of an Infinite Mind? At what point did the inert mass feel the grand pulsations that moved it into glorious forms? And whence came they? If all is granted, have we explained anything by a mere record of physical change?

Again. Is the universe infinite in extent? If so, who shall say that the evolution of one part is not correlated to the devolution of another. Have the serial changes to which matter has been exposed been eternal? or had they a beginning? If they began, they must have had a cause. If they have been eternal, there can be no evolution, for that *begins* in the homogeneous. For evolution to have the most initial logical status it must enunciate a "law," which either accounts for the beginning or needs none. In the absence of this it is a transparent fallacy.†

But even if it were possible as a theory, do the facts of science justify its claims? Every year facts are produced narrowing the possibility of the theoretical cosmical "fire-mist." There are nebulae still that are not only not stars, but are proved to be gaseous; but that they bear any relation to the material of which worlds are made is wholly denied by the evidence of the spectroscope. On the other hand, geologists are constantly more assured in the conviction of the absence of Plutonic action in the earliest rocks. But granted the

possibility; can evolution construct the universe? Let us suppose it has produced the inanimate world; how does it bridge the chasm between the living and the dead? Let the highest science produce a single fact that makes the distance between organic and inorganic less than infinite. Place the mineral and the organism side by side. The former increases *only* by the addition of like particles from without; its boundaries are plane surfaces and right lines. Minerals originate within themselves no motion or change. Internally they are absolutely at rest. A crystal of quartz, freed from all external influences, would remain unchanged for ever. But in organized bodies internal spontaneous activity and change are absolutely essential. They increase by internal assimilation. The molecules of which they are formed are never at one stay — the old are borne off, and new laid down; so that there is a constant passage through spontaneous and cyclical changes. The most industrious efforts of modern chemistry and physics fail to alter this. Strips of palladium galvanized in water, so as to be enabled to absorb the liberated hydrogen have been made to contort and creep like worms, until great molecular change has superinduced inaction; but this was not vital; the activity was from without, not from within. It has been asserted that the cavities of some crystals are filled with a moving fluid: but it lacks proof. The gulf is impassable: keeping only to physical facts, how shall evolution bridge it? And if it could, the distinction between the animal and the vegetable is nearly as broad. In the lowest forms of life the fact is not that there are no differences between them, but that they are unknown. There are many points in common; but the divergences are always sharp when the life history is clear. However difficult it may be to define, in the present state of our knowledge, yet every naturalist perceives an absolute void between them; and therefore, taken logically and according to facts, evolution becomes a monstrous impossibility.

But even if every claim were granted, as Mr. Leifchild proves, an Intelligent Cause becomes an absolute necessity of mind. Self-evolution, leading to the sublimest order, the truest beauty and the highest good, is, must ever be, repugnant to thought. It is true, evolution "may be Theistic, Atheistic, or Pantheistic, in accordance with the mood of the framer's mind."\* But the march of true science —

\* Herbert Spencer, § 57. 1863.

† A paper of great value on this subject (by Mr. J. Mott), will appear in the *Liverpool Literary and Philos. Trans.* 1873.

the interpretation of the facts of Nature in harmony with the laws of mind — leads inevitably, irresistibly to God.

It is a fact, nevertheless, that evolution has taken a powerful hold upon the scientific mind. Doubtless this arises chiefly from the grand unification it seems to offer, and from the absence of large and clear reasoning powers amongst specialists. The hypothesis of natural selection springs wholly from it; and although it evades some of its largest anterior issues by the assumption of the *creation* of one or more primordial germs, it is nevertheless not God, but law that evolves. It is an inherent potentiality in matter, which by the aid of unmeasured time transmutes the mollusc into a fish, the fish into a mammal, the mammal into a man. It starts with a great truth; and this is the secret of its power. It enunciates the unquestionable fact that there is mutation in every living form. Species change. The offspring is never exactly like its parent. This alone distinguishes individuals. But Mr. Darwin claims that this variation is indefinite, constant, and in all directions; and natural selection comes in, conserving useful change and extinguishing the useless, and thus producing species. It is as though we should say that the combination of metals, by which the balance of a chronometer is made *self-regulating*, proves that it evolved itself. *The self-adjustment applies only within certain limits*; and is the clearest proof of purpose. It is so with organic forms; every species is elastic *within certain limits*. This elasticity is for the good — the preservation — of the species. But this self-adjustment no more proves that the formation of the species depended on it, than the self-regulating "governor" of a steam engine explains its production.

Mr. Leifchild has given a most careful critique of this remarkable hypothesis; its exposition is faultless, and its reasoning indisputable. Without following his direct line of thought, we may seek by a few propositions to show that the hypothesis is untenable.

I. *Natural selection is an assumption which nature does not justify.* So far as Mr. Darwin's writings are concerned, the facts they deal with refer only to the origin of varieties — not of species. A species is an organic form permanent in itself, and retaining that permanence amid changing circumstances by a certain adaptive elasticity. This power of adjustment varies in different species. The goose, the peacock, the cat, the ass, have but the most

limited range of variation. The pigeon, the dog, the horse, the ox, have a far wider range. Man can seize on this power and make for *himself* improvements; but they are never "improvements" for the animal. They are monstrous varieties — neither presenting nor indicating the remotest specific mutation. All that marks the species remains intact. The skeletal modifications produced by "breeding" are no greater than always exist. The mummied cats and dogs from Memphis are like those that live beside us. Huxley admits "that a group of animals having all the characters exhibited by species in nature has never been originated by selection, whether artificial or natural."\* The varieties are purely abnormalities, "selected" by art, solely for man's good or caprice. Hence they are unfixed; they go back to the normal condition as soon as the strain of "selection" is taken off. The horse or the ox never so highly bred, will, if left to Nature, simply revert to the original condition; and every variety of pigeon will, on acquiring freedom, go back to the form of its simplest ancestor — and this often with great rapidity. What is the issue of this? Simply that art selects, not Nature. Nature refuses to accept the selection art has made, and remodels after her antique form. Yet the whole theory of Darwin depends on the changes art has produced, to infer the entire production by Nature of all organic forms! Further; the distinction between the species of Nature and the varieties of the breeder is clear; the former will freely interbreed and continue to be fertile. The interbreeding of species is infertile. M. Flourens, after prolonged experiment, declares, "If two distinct species, such as the dog and the jackal, wolf and dog, ram and goat, horse and ass, are united, they will produce offspring which is infertile, so that no durable intermediate species can be established."† Darwin evidently feels almost bound to admit this; he can produce no instance. "I do not know of any" authenticated case, is changed in the sixth edition to "I know of hardly any;"‡ but nothing is gained, for facts are wanting; and all recent experiment proves the sterility of hybrids. Therefore, species and varieties are distinct, and natural selection of the former is in nature unknown.

II. The demands made on *time* by this hypothesis cannot be granted; they are in-

\* *Lay Sermons*, 323.

† *Examen du Livre de M. Darwin sur l'Origine des Espèces*.

‡ Compare p. 385 of Fifth Edit. with p. 240 of Sixth Edit. *Orig. of Spec.*

admissible by the facts of other sciences. Mr. Darwin demands a period of more than 300,000,000 years for the latter part of the secondary geological epoch alone! What then must have been the gigantic interval between the Oolitic system, down through the carboniferous, to the Cambrian! And yet he says, "if the theory be true, it is indisputable that before the *lowest Cambrian stratum* was deposited long periods elapsed, as long as or probably longer than the *whole interval* from the Cambrian age to the present day."\* Now it is well known that, with the exception of the small Laurentian group, all below the Silurian is without a trace of life. While the Laurentian itself only yields the "*Eozoon Canadense*," a form which to this hour many Palæontologists declare inorganic. Why, then, if there has been so gigantic a period, and such incalculable hosts of beings evolved, have we not the shadow of a trace of them? Mr. Darwin replies, "I can give no satisfactory answer!"† And yet his whole theory is based on the assumption!

But Physics is equally a foe. Calculations on the probable age of the sun's heat, constantly becoming more accurate, repudiate the possibility of Darwin's demands. Professor Thompson and Mr. Croll could not yield him a hundredth part of his claims. But the most recent and elaborate researches are by Dr. Gould, and he says the limit given by Thompson must have immense reduction. To this the French Academy has in effect given its adhesion. On the most extreme supposition, Dr. Gould affirms, "we could not assert so long a period as 80,000,000 years for the past duration of the sun's heat."‡ Such incongruities are absolutely fatal to the theory.

III. The record of the rocks wholly fails to support the hypothesis. Geology gives no instance of a single specific transition; and the order in which some geologists affirm that genera are superimposed is transparently open to question. Professor W. Thompson states: "In successive geological formations, although new species are constantly appearing, and there is abundant evidence of progressive change, no single case has yet been observed of one species passing through a series of inappreciable modifications into another."§ It is true the "imperfection of the geological record" is constantly urged upon us; but, granting this in the main, there are

cases in which it is perfect. There are many perfect transitions between the Cambrian and Silurian; but no gradation of species; and the eyes of the earliest trilobites are the most perfect! But more, if all the claims of evolutionary palæontology could be granted, they would stand at best on negative grounds. It is admitted on all hands that the absence of certain fossils in a given strata is no necessary proof that they did not exist during its formation, provided that *traces of life have been found at all*. But the theory of evolutionary superimposition of organic forms depends as much on their absence as their presence. "Any geological epoch, so far as we know, could have sustained the existence of any known form; and every known fossil belongs to some one or other of the existing classes; . . . the organic remains of the most ancient fossiliferous strata do not indicate . . . that any earlier and different group of beings remains to be discovered."\* The result is that the dogmatic statements that certain fossils could only be found in certain strata have had to be constantly corrected.† Since 1818 fishes have been passed down from the Carboniferous to the Silurian epoch; reptiles from the Permian to the Carboniferous; birds from the Eocene to the Trias; insects as lately as 1865 were removed from the Carboniferous to the Devonian. Who shall say that subsequent research will not find the higher vertebrates in the Silurian? The chances of finding the bones of land mammals in comparison with those of marine molluscs and cetaceans are, in every way, enormously against the latter.‡ The dredging expedition of the *Porcupine* proves this. In a region where whales and porpoises abounded, other marine fauna were copiously found, but not a trace of a cetacean skeleton was dredged! Hence there is not a shred of evidence that the absence of vertebrate fossils proves their non-existence. Yet upon this and the gradational character of the species displayed by the rocks depends the whole hypothesis! The geological gap between the anthropoid apes and man is alone destructive of the whole theory. Apes have been discovered in Greece, but they are *only* apes. And remains of man have been found for which immense antiquity is claimed, but they are remains of *man* and nothing less. We would, therefore, ask in all simplicity how

\* *Origin of Spec.* p. 286. Sixth Edition.

† *Ibid.*

‡ *Nature*, May 12th. 1870.

§ *Ibid.* Nov. 9th, 1871.

\* *Owen's Palæontology*, i. 13.

† This is well shown by J. Mott, in the paper before alluded to.

‡ See Mr. Mott's paper.



far this hypothesis coincides with the canons of the phenomenal philosophy out of which it professes to have grown? Finally—

IV. The series of animals extant gives no sanction to the theory. We are traced back by Mr. Darwin to the Ascidian larva. This depends on the observations of Kowalevsky and K  pfer on the larva of *Phallusia Mammilatica* and *Ascidia intestinalis*. They profess to detect the *chorda dorsalis*: the first differentiation of any moment in the vertebrate embryo, and peculiar to it, being, indeed, the track of the spinal chord. This is said to develop in the tail of the larva, which, nevertheless, is finally aborted. Dr. Donitz—a most accurate microscopist—wholly disputes the facts, and asserts that the affinities revealed are absolutely in another line. But if they were true, what is gained? The gap between the lowest vertebrate and the Ascidian larva is immeasurably vast; how shall it be bridged? Only by the most unbridled imagination. If we come to the earliest vertebrate, what do we discover as to its relation to the order next above it? The lancelet, although a vertebrate, has no vertebrae, they are indicated by a mere gelatinous notochord. It has no ribs, no skull, no brain, no jaws, no hyoid arch, no ears, and probably no sense of smell. Between this and the lampreys—next in order—"there is a gap the extent of which has never been imagined."\* Every distinguishing feature of the higher vertebrates is either absent or in its crudest form. If we pass from these to the sharks and rays, territories are vacant larger than any now occupied by family after family; and it is only when we reach the Teleostian, or bony fishes, that the vertebrate skull is perfect. What an abyss lies between this and the lowest reptile, lepidosaurians included! and thence to the bird, the mammal, and the man! All this Mr. Darwin is bound to perceive; and yet he would have us believe that every form, by variation and progressive change, has been produced by those which preceded! And the whole issues in the production of consciousness, emotion, and thought. An "inherent power in nature" is its cause; an unconscious, impersonal, soulless abstraction produces the conception of Deity, ideas of right and wrong, ennobled purpose, vast intellectual powers, ability to subserve the laws by which this unvalued something acts, and educes language,

music, poetry, and all the powers of modern civilized man! Is it not easier to accept what the evolutionist brands as "Hebrew myths," avouched as they are by the history of hoary centuries, than, on the sole authority of modern imagination, to accept this?

But suppose all were granted, what follows? If infinite modifications in an anthropoid ape evolved man's progenitor, still it leaves him *man*. The problem of mind becomes even more stupendous than before. Mental and moral phenomena are facts differing from all other in the universe. Their origin *cannot* affect their nature. They admit of *no* comparison with their source. If, in spite of all the true teaching of science, we are told they arose out of bestial sensations, we retort fearlessly that they are *not* bestial sensations *now*. They have their own inalienable domain. Are we to ignore their true characteristics because of their source? When the artist makes the canvass instinct with beauty and truth, do we simply call it "pigments and canvass?" These are employed in its production, but are *they* the picture? Do they make it? No! the realized ideal is something infinitely different from that out of which it is formed. Whatever the source of mind, it is mind. It differs wholly from its evolutionary factors; it is neither the thing that produced it, nor the sum of them. It is a new entity, and by every analogy it can never cease to exist.

But here a new subtlety arrests us: it is the omnipotence of FORCE. Its manifestations are "modes of motion;" and mind is one of them! With great conciseness and ability our author expounds the doctrine of the equivalence and conservation of energy, and frankly accepts it. The weight of evidence is overpowering; "a corporation of physicists," whose weight and authority it would be vain to ignore, have produced *facts* before which the theoretical opposition must retire. "But," says Mr. Leifchild, "it will be seen that we are by no means bound on this account to accept the *conclusions* which sceptical materialists draw from it."\* And this must be the future position of the Christian philosopher. The doctrine "that the sum of the actual and potential energies in the universe is unchangeable,"† is the noblest outcome of science since gravitation was discovered. From the position of the physicist, we accept Mayer's defini-

\* W. K. Parker. F.R.S. *Philos. Trans.* p. 202. 1871.

\* P. 531.

† Rankine. *Philos. Mag.* § iv. Vol. V. p. 106.



tion: "Force \* is that which is expended in the production of motion; and this which is expended is, as cause of the effect, equal to the motion produced." It may develop itself as heat-force, light-force, electric-force, &c., each of these being varying modes of motion produced in the ultimate atoms by ethereal vibrations: they can be changed into each other; their equivalents being unalterable, and in some instances known. Force may be potential or actual; stored up and expended. My muscles have potential energy; I throw a stone in the air; the potential energy of my arm is converted into *actual* energy in the stone. This becomes potential when the stone has reached its highest point; it is transmitted into actual energy as it descends, and, striking the earth, is transformed into heat. Some of the subtlest difficulties which this great doctrine presents arise from laxity of language and want of definition. "Force" is used in a sense often impossible, and motion is confounded with it; while energy is used for both, and *property* is distinguished from neither. But the great abstract difficulty is, that the *manifestations* of force are taken for the force itself. Force is a constant; its manifestations are modes of motion; these are inter-transmutable. But motion cannot be the cause of motion. Motion is not a *thing*. Here are two points in space: a body is in one of them, in the next moment it is in the other. This fact is called motion. Now, motion can apparently only be communicated by impact. But *how* is it that the impact of a moving body and a still one causes the latter to move? "Because," say the greatest authorities, "pressure begins to act between them to prevent any parts of them from *jointly occupying the same space*."† That is, to prevent them from doing the impossible! They *cannot* jointly occupy the same space. Matter is impenetrable; and this explanation is simply futile. A billiard ball in rapid motion strikes one at rest; the latter instantly moves. But there is no proof of *actual* impact. The atoms of the ivory are not touching, for with equivalent pressure the ball can be compressed into a smaller space. When could we say we had so compressed an india-rubber ball as to cause its ultimate atoms to touch, and that because of their impenetrability they could be compressed no more? Then, if no amount of impact or pressure gives evidence of contact of atoms *within* the ball,

what right have we to affirm that when two balls meet their particles touch? When iron is vaporized, its atoms are not in contact, neither are they when it is at a white heat, nor yet when it is cold, for it can even now be compressed; so it can be when it has been beaten for hours with the hugest steam hammer. Then, who may assert that the atoms of a cannon ball *touch* the atoms of a stricken target? Yet this is precisely what is assumed; and, therefore, motion has a physical cause! But the fact is, that the atoms of bodies never touch: motion, according to all phenomena, takes place without atomic contact. Then, motion must result from a power—a mover—a will. Force is the mover, motion is its mode; contact is no factor, for it does not exist. I am conscious of power to move this weight. From this consciousness comes my *idea* of power. I can have no other. Force is will. It operates with unalterable rigidity, and we can formulate its modes: but it is barbarous to confound the mode with the cause. To say that a raised weight has potential energy of position, is not to explain what it is that pushes masses of matter together; it only tabulates the phenomena that occur when they are pushed. The physicist can never free himself from the metaphysical force; that force can be conceived of only as will.

Then, give the name energy to the power of doing work throughout the universe, and remember that the power to do that work depends on a great will-force behind it, and the facts of modern physics are sublime. Not free from difficulty doubtless; neither is its elder brother, the theory of gravitation. There are some phenomena which we know *only* as motion; as light, or heat. There are others, as gravitation, or chemical affinity, which at first appear inconceivable as states of motion. How can they be interchanged?—how can there be resting motion? A difficulty is not of necessity a contradiction. The facts declare it, if we cannot explain. Conceive a piston in a closed cylinder kept in the centre by an equal volume of air on each side. Theoretically this would be explained by the constant and equal impact of air molecules on either side. Take out some of the air on one side, and the *same* impact of molecules on the other side produces an upward motion. The impact that before displayed itself in heat now produces motion; and the amount of heat lost accounts for the work. Here, then we have potential energy, actual energy and movement, all the result of molecular mo-

\* These words are unfortunately interchanged at present. *Vide infra*.

† Thompson and Tait, § 294, *Force and Energy*.

tion.\* As to gravitation, it is not of the same *class* of phenomena as light or electricity, although interchangeable with them. It arises not from the motions of matter within, but from motion beyond them. Challis and Maxwell have shown mathematically that ethereal pressures and waves will explain every phenomenon of gravity. To suppose it a property of matter is without warrant in fact. A property can neither change nor be lost. A particle of gold would be the same, though it experienced incalculable vicissitudes, and traversed the entire creation; but a body weighing five hundred pounds on the earth, if carried to the distance of the moon, would weigh but two and a half ounces, and at a calculable distance beyond it would be *without* weight: thus destroying the root-thought of the word property.

But our space is failing us, and important questions still invite our scrutiny. Biologists have been fascinated with the discovery of physicists; and they argue, if heat be a "mode of motion," why should not thought be also? It is the old principle, unify phenomena at all costs. In a chapter on "Life, Protoplasm, and Vital Force," Mr. Leifchild treats this question with excellent grasp and great candour. The Chemico-Physical theory of vitality we do not hesitate to say is one of the most vicious blunders that ever distorted scientific thought. With what we know of the chemistry and physics of the laboratory, to predicate the building up of a living, conscious, volitional, thinking organism, is equal to predicating music from the laws of gravity. Take one of the most constant attributes of life, irritability — stimulus, and let either chemistry or physics, or both, explain it. A mere mechanical irritant of almost imperceptible magnitude falls into the eye, or attaches itself to the mucous surface of a bronchial tube, or finds its way to the tissues of the brain. Its weight is nothing; no chemical change ensues in it; yet it may excite such inflammatory action as to cause the death of the part, or even of the whole body. What force has been given equalling such an effect? When an imperceptible drop of Tsetse poison strikes down the strongest animal to death, what chemical change can be shown that in the most shadowy way resembles it? When an organism does work, it is amenable *so far* to the laws of correlation — so much work, so much expenditure — it is a mechanical act

subject to physical law. But this does not explain the organism itself. You may correlate the heat expended in lifting a hundred-weight a foot; but what of the consciousness that realized the fact, and the volition that decided to do it? Prove that so much chemical affinity may be changed into so much consciousness, or so much thought, and the case will wear another aspect. To believe it at present involves immeasurably more credulity than to believe in Nature's horror of a vacuum. Indeed, if every claim of Materialistic Biology were made out, it could only prove that life was a *property* of organization with which under unknown conditions — conditions wholly outside the reach of the known forces — the Creator has endowed it. Life could never have come from what was not life. Organization endowed with such a property must have been created; and no matter can ever live but what is transmitted from, or transmuted by this. With the existence of a soul in man, we are not bound to a "vital principle" to explain the phenomena of simple vitality, although it is incomparably the more philosophical. Property is inalienable. We can only know things by their properties. The living organism possesses these, and they are such as to distinguish it from all else. In the same organism dead, every trace of these properties is gone. It follows, therefore, that none of the so-called proximate principles found in the organism when *dead* existed in it when living; but that in their place there is a peculiar combination isometric with the sum of these; and that the resolution of this into the "proximate principles" is the act of death. You cannot analyze life; the very act of analysis resolves it into death. It eludes the most subtle processes; and, because we cannot find it, to say that it is simply a series of molecular changes in the elements we find in death, is to step outside the pale of Philosophy.

That life differs wholly from any possible effect of physical force finds a beautiful phenomenal confirmation in the labours of Dr. Beale, whose work is evidently appreciated by Mr. Leifchild. As a microscopist he is second to none in the world, and he has made the study of vital phenomena the special duty of his life. He distinctly affirms that matter living and matter dead are always and wholly dissimilar. He says, and by his preparations proves, "that between the living state of matter and its non-living state there is an absolute and irreconcilable difference; that so far from our being able to demonstrate

\* Vide J. Drysdale's *Life and the Equivalence of Force*.

that the non-living passes by gradations into . . . the living, the transition is sudden and abrupt; . . . that while in all living things chemical and physical action occur, there are other actions, as essential as they are peculiar to life, which . . . are opposed to and are capable of overcoming physical and chemical attractions."\* Then to suppose *life*—to say nothing of consciousness and thought—a correlate of physical force, cannot be more than equalled by some of the most ignorant blunders of the Middle Ages. All the materialist could make it, if all his premises were granted, we repeat, would be a distinctive *property* of matter. But matter never so marvellously endowed could not produce consciousness, thought, volition. The very endeavour to think that it can, forces us, with Professor Huxley, into pure idealism. There is no stronger evidence of the unthinkableableness of the attributes of mind flowing from the qualities of matter than Huxley's retreat into the negation of matter when to his own satisfaction he had but just slain the last argument that would render the existence of anything but matter possible.† Mind is an entity wholly unlike matter—and life is wholly separate from physical force. If it be urged that such reasoning involves a certain degree of mind in brutes, and consequent immortality, we reply be it so. There can be no proof on either side. The problem is beyond us; but our own immortality is irrefragable.

The same reasoning makes the assumption of a physical basis of life impossible. The glairy compound everywhere associated with life is no explanation of the life it phenomenalizes. The chemist analyzes what?—not the life in the plasm, but the plasm *when the life has left it*, and life defies him as triumphantly as before. To have found that life everywhere inheres in a proteine compound, which on analysis after death yields certain elements, is not to have found *life*. And to talk of dead protoplasm is equal to saying that twice seven are ten!

The fallacies of spontaneous generation are equally patent. We write after years of careful investigation; decomposing matter is *never* recombined into organic forms.

The last struggle of Dr. Bastian to prove it, is a transparent failure.\* It tells us more of the development of lowly forms, but it does *not* prove their invital origin. The remaining chapters of this valuable book are chiefly constructive, and abound with most pregnant contemplations. They consider man as an intellectual being, with a momentous past, and a glorious future. The philosophy of death, the question of resurrection, the certainty of immortality, the future continuity of our knowledge of God in His works, and the consequent heaven of mind, are all considered with the reverence of a Christian and the calmness of a man of science. The author seizes with exquisite aptitude the latest discoveries and hypotheses of science, and by analogical reasoning marshals them in support and elucidation of the highest claims of religious thought. Rising from a contemplation of the most brilliant speculations of modern science, we see that they point with a skeletal grimness, grimmer than death, and more terrible than the grave, to a Universe without God, and humanity without a soul. But, closing Mr. Leifchild's book, we rejoice to have seen *everything that science can claim as fact* ranging itself on the side of our nature, and marked by kinship with revelation. It is a false philosophy which constructs a science of Nature, and ignores a science of man. He is part of Nature: but he is immeasurably above it. But there can be no science of man which does not include *faith* as a normal element of his being; for it is only reason in its loftiest attitude. We can never believe until we know *why* we believe, and to do this is to reason. Faith carries us across the flood, to the edge of which reason has brought us, and is compelled to leave us; and unless faith bear us over by its naked strength, the infinite mystery beyond becomes a Tantalus-like nightmare to mind. Professor Tyndall seeks to evade this by making "imagination" take its place. But it is a fallacy; at once a scandal to science, and a disparagement of the normal attributes of man. Revelation lays no interdict upon research; it deliberately passes phenomena over to reason: but it authoritatively declares to faith that which no searching can discover.

\* *Medical Times and Gazette*, Nov. 7th, 1863, p.

623.

† *Lay Sermon*, 374.

\* *Proc. Royal Society*, March 21st, 1872.

From Fraser's Magazine.

THE BURGOMASTER'S FAMILY; OR, WEAL  
AND WOE IN A LITTLE WORLD.

BY CHRISTINE MULLER.

TRANSLATED FROM THE DUTCH BY SIR JOHN  
SHAW LEFEVRE.

## CHAPTER . XVII.

WHERE TWO ARE QUARELLING, BOTH  
ARE IN THE WRONG.

I HOPE my readers still possess sufficient interest, or at least sufficient curiosity, concerning the *dramatis personee* of my narrative, to have observed that there are two individuals whom I have omitted to mention in my summary of the events of the last two years.

But I have not forgotten Otto and Celine; and certainly for them, as for everyone else, it is seldom that any two years can be said to be so important as the first two years of marriage, which not unfrequently determine the whole after life. Happy, if the first two years have served to draw closer the bond of love which united them, by the welding together of two hearts and two souls, finding in this union the completion as it were, of their respective selves; if they have learnt to share together all their joys and sorrows, and are yet fully sensible of the fact that, however divergent may be their characters, their mutual influence has had an ennobling effect on both.

Unhappy, if the pair of human beings who have bound themselves together by their own will and choice have gradually made the discovery thus early in their married life that they do not suit; if their tempers constantly clash; if their union at its outset did not rest on a foundation of mutual respect, or if this foundation is felt every day to be sinking under their feet; if the glow which should warm their whole life languishes for want of fuel, and only flares up again now and then for a moment, but has no vitality in it; if these two souls turn away each to hide its sorrow from the other, and any community of ideas, any common joys, become impossible; if the two poor, fettered hearts struggle against the chains which bind them, and lower themselves and each other by dislike and disputes. Yes, then it is that sorrow is the unbidden guest seated at the fireside. Then joy flickers like a lifeless glimmer. It is then that a chilling atmosphere pervades the house, which paralyzes all noble sentiments and emotions.

And what is the key to the numberless

dramas in everyday life—the solution of these enigmas of wasted happiness of lives, where so often all the circumstances lead one to expect a better result? The answer may be given in these few words: “They were not suited to each other.” Each taken separately a good half, but both together a misshapen whole. So it was with Otto and Celine.

Celine undoubtedly had never been so near the truth as when she said to Otto, “You and I are not suited to each other;” and for both of them the day had long since dawned when these words had forced themselves upon their recollection as a terrible truth. I feel no wish to enter upon the details of that unhappy married life, but I owe it to you to state the principal features of it.

I can begin by speaking of the few happy days which the young married pair spent at Brussels—days of perfect felicity as regards Otto, and contented calmness as regards Celine. But these days were few, and were brought to an end unexpectedly by the news from Dilburg that, since the departure of his mistress Cæsar had refused all food, and that probably Celine would not find him alive unless she returned home immediately.

Now, one can very well conceive that it could not be agreeable for a young married man to give up his wedding tour for the sake of a dog; but Otto, nevertheless, would have been wiser had he acquiesced more readily to Celine's wish. But it must be added in his excuse that, being very indifferent to animals himself, Otto could not, perhaps, form any idea of Celine's affection for the poor beast, which in her solitary life was almost a friend and companion.

Celine's flood of tears at the news annoyed Otto. The hasty departure insisted upon by Celine was preceded by a warm discussion between husband and wife, which Celine on her side pushed to extremities, using passionate words, forgotten perhaps by herself as soon as uttered, but which wounded Otto deeply. And thus the first spark was kindled. From that moment every difference of opinion caused a dispute, and every dispute a quarrel. And yet all might have been well—at least if not well, better—if the intercourse with the Dilburgers had not placed a new stumbling-block in the way of their domestic happiness.

For, with all the sound understanding and clear judgment which Otto displayed in his profession, there clung to him, owing to his education and long residence in Dil-

burg, a certain country-town narrowness of ideas, which from the very first made him introduce Celine to his acquaintance with considerable anxiety of mind.

The public opinion of Dilburg was Otto's spectre. It had grown up with him from his earliest youth, and had so undermined his courage, that he had no longer the power of looking it boldly in the face.

Instead of letting Celine appear to his acquaintance in all the natural peculiarity of her nature, as she had charmed him and won his love, he would willingly have transformed her into one of the most every-day kind of women of Dilburg society.

It was quite an embarrassment to him that Celine was so entirely different from all the others. He blushed whenever she offended against the rules of etiquette which she had never known; he was dissatisfied when she sat by in silence whilst the ladies were talking of dress or household matters; he was restless when he heard her talk to the gentlemen about horses, dogs, and sporting, and when the sparkling of her eyes showed how she entered into the subject with all her heart and soul.

On their return home it was seldom that Otto had not some remark to make to Celine on her behaviour. When the lady of the house addressed her, she should have stood up; that was the correct thing. She ought not to have stayed chattering so long with that young man; to say to another lady that she was sure she could not be fond of walking because she was so fat, and to decline an invitation with the real reason that she had no wish to accept it, was neither becoming nor polite; and so on in endless variety.

Thus Otto, with the best intentions, was like an ignorant gardener, who, having a rose-bush, which by careful tending, transplanting, and pruning might become a fragrant and perfect rose, tries by grafting to turn it into a camelia.

To turn Celine into an ordinary European woman was quite as impossible as to convert a rose into a camelia; and that Otto should wish to try this experiment, instead of exercising the influence on Celine which in the earliest period of their married life was in his power, and of using it to elevate and quicken what was really noble and good in her, was a mistake; not, indeed, his first, but one that cost him the happiness of his whole married life. If Celine had been of a gentle and retiring nature, this continual attention to all her doings would have confused her and made her more awkward by destroying her self-

confidence, but for a disposition so irritable as Celine's these petty fault-findings were intolerable. Accustomed with her father to have perfect liberty of action, and spoiled by the admiration which he felt for his gifted daughter, Otto's remarks and criticisms were almost hateful to her.

She felt that Otto was in the wrong; that in a certain sense she was far above the women whom he placed before her as examples; that she far excelled them in talents and knowledge; and it grieved and provoked her that he should so dread the judgment of these country-town inhabitants of Dilburg, that even his admiration for her yielded to his fear that the departure from the customary rules of society would excite their disapproval.

At first Celine endured Otto's mode of treatment, though with a murmuring and rebellious spirit, until on a certain day he went too far, and the bow, too rudely bent, broke in the middle.

Then a violent scene took place, which at once made him understand, but too late, that his method of proceeding was wrong.

Celine declared that she would never set foot in Dilburg again, and would thus relieve Otto from all further grounds of annoyance on her account. And she kept her word with a consistent perseverance, or, to call it by its proper name, obstinacy, which neither persuasion nor entreaty could shake, although more than a year and a half had elapsed since she made the determination.

And even when Burgomaster Welters died, and her proper place would have been at Otto's side at his grave, she still kept to her resolution.

From that moment it seemed as if Celine had released herself from every tie which attached her to Otto, as if all good intentions were set aside and all sense of duty forgotten.

The smallest reason was enough to make her burst out into an unbridled passion; every wish of Otto's was systematically thwarted; she wandered through the Beckley woods accompanied only by Cæsar; and the room in which Otto was to be found was so carefully avoided, that sometimes days elapsed without his seeing her. Things were in this condition when the anniversary of Mr. Arnold's death arrived, and then Otto followed his wife to the churchyard, whither he supposed she had ridden, and took advantage of her softened state of mind to make a new attempt at reconciliation. He succeeded, as far as success was possible.



For a dispute and alienation lasting for months leaves indelible traces behind, like a rent in a piece of linen, which the most skilful hand cannot mend so that all traces of the tear should disappear. It can never be again as it was before, and the value is gone! So it was with Otto and Celine.

During these months of alienation both had thought and suffered much more than they had dared to own to one another; both had accustomed themselves so much to going their own way without consulting or communicating with each other, that the renewal of intercourse was almost oppressive, and, what was worse, the estrangement had diminished their mutual affection.

Now and then, when Celine was in higher spirits than usual, and talked to him in her old way, or sat down to the piano, Otto's heart would again glow with the admiration which had formerly enslaved him; but the fire of his passion was extinguished, and there only survived a sad tenderness towards the wife whom he had once loved so much, and whom he could not make happy, while a consciousness of his own lost happiness seemed to cast a dark shadow over his whole life.

After their reconciliation, Celine returned to the old life which she had led before her father's death.

When the Javanese servants had returned to their own country, because there was no longer any prospect of their going back with Celine, and it appeared an utter impossibility for her to manage her household with Dutch servants, by her wish a housekeeper was engaged, to whom the entire management of the household was given up; Celine's time was now quite filled, as formerly, with reading, walking, riding, hunting, fishing, and the care of her flowers, and Otto could take part in these pursuits as much or as little as it suited him, but not one word from her showed him that his company was more agreeable to her than solitude.

Fortunately Otto found much distraction in his now constantly increasing practice, but yet he felt deeply the loneliness and desolation of his life. When Celine left off paying visits, and did not admit anyone from Dilburg except the family, Beckley soon became as lonely as in the time of Mr. Arnold, whilst Otto felt it to be impossible for him to appear in Dilburg society without his wife. Now and then, however, when he came in at tea-time and found the sitting-room deserted (for his wife hardly ever appeared there unless for the moment she had nothing more to her

taste to do), he would leave his dull, sad home, and go to his father's house in Dilburg, to take part in the cheerful sociability which prevailed there, and which was almost a necessity of life to him.

But in those days no one ever knew what was passing in Otto's mind. To no one had he ever spoken of the bitter disappointment of his married life, not even to Emmy, with whom he was on more confidential terms than with anyone else.

Whether a faint hope still lingered in his heart that all would yet be changed; whether this was the cause of his inexhaustible patience towards Celine, whose freaks and humours increased in proportion as he became gentler and more indulgent; or that he had resolved that in the dwelling where happiness and love were wanting peace at least should reign, certain it is that Otto was more exact in the fulfilment of his duties towards his wife in proportion as he found his affection diminish, and at the time of which I now write, two years after their marriage, a calm repose had come into their relations with each other which, compared with that which mutual love and confidence can give, might be likened to the calm repose of death. . . .

"And when am I to see your little wife, Otto?" asked the unsuspecting Siword Hiddema, as they took leave one evening. "To-morrow I am going to Sollingen, and unless any other time would suit you better, I'll come and drink tea with you at Beckley the day after."

And as Otto had to be in Dilburg on the afternoon in question, it was settled that he should himself come to take Siword to his house at Beckley.

To say the truth, this coming to tea was altogether disagreeable to Otto, as indeed had been the visit of every stranger of whose good reception by Celine he could never be quite certain.

If it happened that she was in a good humour, then indeed she could be the most agreeable hostess, but inasmuch as the smallest trifle was sometimes enough to destroy her temper for the whole day, he could naturally place no reliance on it, and the visit of Siword Hiddema, which had already led to a somewhat disagreeable discussion between the married pair, promised little pleasure to Otto.

"Celine," said Otto to his wife that morning, "if I have ever wished anyone to be well received here, it is my guest of this evening."

"That means that he must take home



with him the best possible impression of Mrs. Welters."

Unimportant as these words of Celine were in themselves, they acquired an ironical sound by the manner in which they were uttered, and the scornful smile which played on her lips.

"I conceive, Celine," said Otto, seriously, "that whenever a husband knows that his wife can put on two entirely different kinds of manner, he may be permitted to wish to present her to his friends in the best light."

"Certainly," answered Celine, in a bitter tone, "for what is the value of a wife if her value is not recognized by everyone? What does it signify if she is all-beautiful, lovely, and charming in the eyes of her husband, if he does not see that opinion ratified in the eyes of his friends? . . . So Mr. Hiddema is to be well received! To make sure of it, had you not better make me out a list of what I ought to do, and what I ought to abstain from — what I may say and what I may not?"

Vexed, but without speaking, Otto left the room.

The bitterness expressed in every word which Celine spoke, when she was in an ill humour, was almost intolerable to him, and forced upon him the conviction of how deep-seated must be the rancour of his wife towards him, to escape from her lips as it did at every unguarded moment. Knowing by experience that every word he might now utter would only serve to excite Celine's anger all the more and still further to damage the matter in hand, Otto took his departure, simply saying as he left, that he intended to dine in Dilburg with his family, and to return home at about seven o'clock, bringing his friend Hiddema with him.

Later the two gentlemen walked together through the Dilburg gate, in close conversation about the Sollingen Estate, which had been inspected by Siword Hiddema the day before, and seemed to have answered all his expectations.

"I am prepared to offer a good round sum for it, Otto," he said, "as I understand that two purchasers have already come forward; for whatever may be the actual value of Sollingen, to me it is worth something more."

"But I have always heard," remarked Otto, "that as regards producing annual income, Sollingen has not much value."

"And you would not be surprised at this if you knew the neglected state of the property. No, Otto; believe me, more

than five hundred acres of land — wood, meadow, and arable land — must with intelligent management produce a rent. A capable steward and the careful eye of the owner will do wonders; and, at the worst, I have sufficient means to allow myself the luxury of residing at Sollingen."

"And the house?"

"The house is in a better state than could have been expected; with regard to the grounds, there is little or nothing to be altered, and all that concerns painters and paper hangers is too quickly done to make any difficulty about it."

Here a turn in the road, which brought them in sight of the approach to Beckley, broke off their conversation about Sollingen.

"Is that Beckley, Otto? Now that I see it I remember it in former times, but I had no idea it was so prettily situated. Well, Otto, who would have thought formerly that this pretty country place would once be your home, and that you would keep house here with a dear little wife?"

Otto smiled rather faintly in answer. He hardly heard what Siword said, for he was full of anxious thought as to the possible continuance of Celine's ill humour, and the consequent bad reception which might await him at Beckley.

Nevertheless he breathed more freely when he saw from the bridge over the brook that the glass doors leading on to the terrace from the drawing-room were open, and the silver tea service, which was ready on the table, even at that distance shone in their eyes.

This was a sign that Celine expected them, and by not receiving them in the ordinary sitting-room intended to do honour to the guest.

Easier in his mind than he had been the whole day, he led Siword through the open glass doors into the house, found a comfortable seat for him in an arm-chair, and after sitting with him for a few moments, said that he would go upstairs and tell his wife that they were come.

Celine, however, was nowhere to be found, and all the account that the house-keeper could give of her was, that she had ordered tea to be got ready in the drawing-room, that she had gone out after dinner and had not yet returned.

How Otto felt when he had to go back to his guest with the intelligence that his wife was not at home, I can scarcely describe.

Bitterness and shame struggled within him, and doing his best to state the matter to Siword as an unimportant trifle, he

belied his words by the despairing, down-cast expression of his face.

"It is very annoying, Siword," he said, in the lightest manner possible, "but my wife appears to have mistaken the time; she often takes long walks, and you know how it is with ladies as to reckoning time."

"Well, I don't think we are in any hurry, Otto. I will move my chair on to the terrace and light a cigar, in expectation of the cup of tea which your little wife will presently make for us."

And Siword looked up at Otto as innocently as if there were nothing strange in the absence of the hostess, and he suited his action to his words by setting his chair on the terrace and taking advantage of the first thing that came into his head in order to turn the conversation.

"What a charming scent this jessamine gives, Otto: it is almost a pity to smoke one's cigar here."

Otto hardly answered; he sat on thorns, and his distress increased every moment. What must Siword think of Celine? How could he himself excuse her behaviour, after the special recommendation he had left with her as to receiving his guest?

Siword chatted without embarrassment almost too obviously about all sorts of things, as if he had come to Beckley only for that purpose, and he declared too conscientiously that he wanted nothing more than a cigar and a sociable talk with an old friend—it was an additional aggravation to Otto to hear the boiling water which, steaming and singing, suggested drinking tea, and he felt that Siword was only trying to set him at his ease, and he wondered what he (Otto) should have thought had he met with a similar reception. Half an hour elapsed, and still Celine did not appear. Otto got up from his chair, and said with a painful expression on his lips, which he tried to turn into a smile—

"The housekeeper shall make tea for us, Siword, for I cannot imagine what has become of my wife."

"Let the housekeeper alone, Otto. If you don't like to wait any longer, I will do the honours of your tea-table. You know Heaven helps those that help themselves. . . . Here I shall sit, and you shall see presently what a famous brew Siword Hiddema will give you."

Placing himself at the tea-table, and appearing not to notice Otto's silence and gloominess, Siword jokingly began to make tea, and was just occupied in pouring out the first cup, when a clear, ringing laugh made him look up, and with the teapot in

his hands he turned his eyes towards a female form who stood on the terrace by the open glass doors, apparently watching his somewhat absurd attempts at tea-making.

Her dress disordered and muddy, her face scratched by a thorn bush, bleeding and heated, her hair rough and partly hanging loose, a double-barrelled gun in her hand, and preventing with her foot a large dog as muddy as herself from coming into the room—so stood Otto's wife before Siword Hiddema.

"Otto, I have got him!" were the first words which she called out to her husband in an excited, triumphant tone. But it seemed as if the first glance at the sombre expression of his face recalled her to her senses. Saluting her guest with inimitable courtesy, she said to him, "Mr. Hiddema, I see that I am late, but when I tell you that I have been after a fox, which for months has been stealing my hens and pigeons, and have shot him, you will surely forgive me. You shall soon come and see him—Friend Reynard, with his beautiful tail—but I must first go and change my dress; for we are in such a state that we are not fit to come into a drawing-room, are we, Caesar?"

She laughed again, and, carefully keeping outside the door, she put out her hand to her guest, who had got up and had moved towards the door, but was at first too much taken aback by her strange appearance to say anything.

"After we had waited for you, we began to trespass upon your rights," said Siword, pointing to the tea-table, "and so we can't complain."

"You have managed it so well," answered Celine, laughing, "that if I dared to do so before Otto, I would say: Give me a cup of tea, for pity's sake, for I am dying with thirst."

"Well, why not?" rejoined Siword, while, joining in Celine's laugh, he went back to the tea-table; "does your ladyship drink sugar and milk?"

"As much sugar as you please."

And, sitting down on the chair which Siword had placed on the terrace, she enjoyed the cup of tea which he brought her, and she chatted with her guest, evidently in the merriest humour, without paying the least attention to Otto, who in silence and in the highest degree put out, walked up and down the room.

Half an hour later, Celine sat carefully dressed with the two gentlemen on the terrace. She conversed in her most cheerful and easy manner, and whatever Siword may have thought of her at first, he could

not now resist the influence of her singular originality, nor a feeling of admiration for her strange, unusual beauty.

Full of animation as she always was when anything excited her interest, she took her guest to the stables, where she showed him in triumph the fox which she had shot, and Schimmel, who was properly introduced to this new acquaintance; afterwards Celine, wholly under the influence of her own good humour, sat down to the pianoforte of her own accord, whilst the two gentlemen, sitting outside before the open glass doors, were enjoying the cool freshness of the summer evening with a glass of wine.

I have already spoken of her great musical talent, and now her masterly hand evoked from the instrument the most thrilling and pathetic strains, alternately joyous, melancholy, wild, and passionate, according to the mighty will of her varying inspiration, and which carried away her hearers to a complete oblivion of all around them. Very rarely did Celine lose herself in improvised playing like this, and it revived recollections in Otto's heart and changed the bitter mood into which her behaviour that evening had thrown him into one of melancholy tenderness, and made him repentant for all the bitterness which he had entertained this same evening towards his beautiful, gifted wife.

In the darkness which had come on, Celine's playing filled his ears with the most enchanting tones, stirring up feelings within him which had so long been dormant, that he had gradually learnt to regard them as dead. All these things combined involuntarily carried Otto's thoughts back to that first evening when Celine had played to him, and to the love with which he was then inspired. Listening to the strong yearnings of his heart towards peace, and reconciliation, he slipped away unobserved from the side of his guest into the room, which had become almost quite dark, and, silently approaching the piano, he threw his arms round his wife's neck and gave her, unawares, a kiss.

At that moment Siword, who, under the influence of the music, had sunk into a dreamy state, was roused to consciousness by a shrill discord proceeding from the instrument itself, and Celine's playing came unexpectedly to an end.

Through the darkness which prevailed in the room he could not distinguish anything, but a still greater discord than that of the instrument grated upon his ear in the voice of Otto's wife and the tone in which she said —

"Let us have lights, Otto; I hate this darkness."

As Otto rang the bell, Siword came into the room to thank Celine for the pleasure she had afforded him, but he received no answer. Meanwhile the maid came in with the lamp lighted.

"What is the meaning of this, that Charles does not bring in the lamp?" Otto asked her, as he shut the glass door next him.

The maid gave a hesitating look at Celine before she answered timidly —

"Charles is not here, sir."

"Charles is not here?" asked Otto in a surprised tone; "what do you mean by that?"

"Nothing, Otto," interposed Celine calmly, while she made a sign to the maid to leave the room; "Charles is not here, for I dismissed him this afternoon."

"Heavens, Celine!" cried Otto, highly indignant? "how could you do this? Charles is the best servant one could possibly find. How dare you do this without my knowledge?"

"I turn off every servant," said Celine, coolly, "who is disobedient to me. I consider myself entitled to do so without asking advice of anyone."

"But in Heaven's name what can he have done?"

"It seems to me, Otto, that this subject cannot be specially interesting to our guest, and we had better put off all further explanation till a more convenient time. It is enough that Charles is gone, and shall never set foot in my house again."

"I believe that it is our house of which you are speaking," said Otto in a bitter tone.

"Just as you please," she answered, shrugging her shoulders, and turning her back to him as she went out upon the terrace and vanished in the darkness; exactly as she had done on that very evening which Otto had, a few moments before, recalled to himself with such tender feelings. And, just as then, Celine did not come back, and the gentlemen supped together whilst the third place at the table remained unoccupied, and Siword had not courage to allude to her absence, although he made superhuman exertions to keep up a conversation with Otto on indifferent subjects. But it was difficult to determine which of the two felt most relieved when the evening was so far over that Siword could speak of going home. As he took leave of his host, who had accompanied him to the gate of Beckley, he

placed his hand on Otto's shoulder, and said seriously —

"Otto, in every marriage, even in the best, there are days of light and shadow. I have been married myself, and I know this by experience. That I should have come to you on a dark day naturally annoys me, but you would do wrong to pay attention to it. Who knows how beautifully the sun may shine when I come again?"

"The sun shines no more after it has set," answered Otto in a bitter, melancholy tone.

"Not till the night is over, but even the longest night has an end; and you know, Otto, that the night is darkest just before the dawn. Keep up your spirits, my good fellow."

#### CHAPTER XVIII.

##### A FINAL STRUGGLE.

AGAIN another week has passed. The month of May is not yet at an end, and the tints of spring are still on the face of nature, which, retarded by the unusual severity of April, is making up for lost time with redoubled speed, and bringing into activity the old but ever new miracle of the revival of vegetation. The sun, not as yet carefully shut out, as in the scorching heat of mid-summer, but appreciated and, admitted freely into all houses, shed light and cheerfulness, awakening in most hearts an echo which is in harmony with the young life out of doors.

In most hearts, but not in all.

Otto Welters' heart was one of these exceptions.

Even in his office, and on the desk at which he was seated, the cheery sunbeams danced up and down, but he himself sat gloomy and sunk in thought, without commencing the many matters of business that awaited his attention.

A strange restlessness had come over Otto that morning, a restlessness which made him wake much earlier than usual, and drove him out for an early walk; it even followed him into his office, where generally he was able to put aside all cares and thoughts that might hinder him from giving himself undisturbedly to his work.

Here it was not his wont to dwell on the circumstances of his private life; here he was the advocate, and the man, with his needs and wishes, was thrown into the background by the force of his will and the absorbing exertions which his work required. But to-day the man appeared

to have the upper hand, and to work was almost impossible.

To-day everything was a hindrance and a trouble — the sunbeams which played on the white paper, the twittering birds in the lime trees before the house, the humming bee and the buzzing fly, as they came in at the window with the warm summer air, and the chatter of the children at play in the market-place, but above all the painful thoughts which filled his heart till it well-nigh burst.

It was almost as if this sunny, cheery May morning had brought him to the consciousness of the sharp contest going on within him, as if all the self-deception which had so long possessed him had departed, as if all at once he comprehended that the green oases which he had fancied he had seen in the distance were but a mirage, which had made him overlook the dry, bare desert of his life. He shuddered when he thought of the future — the future which could bring him nothing but the confirmation or increase of the wretchedness of to-day.

And when he looked back, his heart was wrung with self-reproach and remorse, for then he thought of her who in every sorrowful hour of his life rose to his mind — of Mary van Stein, the noble, pure being whom he had thrust away, and with her a happiness which might have been perfect but for the weakness and inconstancy which had led his heart far from her.

He reproached himself for having ever married Celine, knowing, as he did well enough, that he was not the man to bear with or improve such a nature as hers.

He reproached himself in that he had exercised no influence on her for good; that in some things he was too weak and yielding, and in others too impatient, and that at all times he acted in opposition to her views. He reproached himself for having betrayed the confidence which Mr. Arnold had placed in him, and for having destroyed the happiness of Celine's life by a marriage which had only served to extinguish in her every noble aim.

Yes, indeed, in this hour, what was there which was not a matter of reproach to Otto Welters?

In this hour it was as if he had drained the bitter cup of life to its dregs — as if he had closed for ever his account as regards all hope of peace and happiness.

And yet in such a bitter hour as this there still smoulders in every man's heart a spark of reaction, which not unfrequently at that very moment rekindles into a new life of hope and courage, however

contradictory this may seem. Springing up from his chair, he paced up and down the room in great trouble and excitement, and gave utterance in a faint voice to the words which rang in his heart: "Is it too late, irrevocably too late?"

No, not too late, with God's help! In this hour, which witnessed the deep feelings which agitated him, he vowed that he would let Celine see the suffering and misery with which his heart was lacerated.

She might misunderstand or ridicule, him, but he would make a last effort to break through the ice-crust which shut up both their hearts; he would make one more effort to wipe out the past; once more he would begin his married life afresh, and it should, it *must*, be different from what it had been. . . .

It was not yet eleven o'clock when Otto left his office, a circumstance for which there was no precedent in all the years during which he had been settled as an advocate at Dilburg.

He felt himself bound to take advantage of his present state of mind. An undefined plan came into his head that he would tempt Celine to take a walk with him this fine morning, that he would lead her to the spot where he had first told her of his love, and would there impart to her all anew that he hoped and wished.

With hasty steps he walked out of the town gate—at an hour which otherwise always found him at his office; it was the very same hour, however, when he first went to Beckley, and now, in the full glow of the morning sun, the house looked just as it did then.

On approaching the house, no sign of life was perceptible. Only the groom, who was leading Celine's horse slowly up and down before the door, in evident expectation of its mistress, satisfied Otto that he should find his wife still indoors.

In the new arrangement of the rooms after Otto and Celine's marriage, and in the early days of their affection and mutual confidence, a little room next to Otto's study was fitted up as Celine's boudoir.

These were connected by a door, and Celine's room had no other exit, and, as well as Otto's room, was in the front of the house.

Except when dinner or any other meal required the presence of the mistress of the house, Celine seldom or never came into the rooms down-stairs, and if she were not out of doors or in the orangery, Otto was sure to find his wife in this little sanctum, where her books and writing-table

provided her with the only occupations which engaged her when indoors.

Hither, therefore, returning at this unusual hour, Otto directed his steps. But immediately on entering his own room he perceived that Celine's door was shut, which was never the case. To his question, "Are you there, Celine?" he obtained no reply, and his knock at the door was not answered. He then opened the door to satisfy himself of her absence. The next instant, with a cry of astonishment, he started back, at the same time throwing the door wide open.

And no wonder.

Sunk in Celine's arm-chair in a comfortable attitude, with one leg thrown over the other, a cigar in one hand and a riding-whip in the other, sat a young man; his cap, of the same stuff as the rest of his clothes, was drawn over his eyes. He did not move, he did not look up, when Otto indignantly and in a harsh tone called out to him—

"Who are you? what are you doing here?"

The stranger continued motionless.

Otto, hardly master of himself, snatched the cap from his head so as to see his features.

A loud laugh resounded through the room, and Otto's astonished, angry eyes beheld the face of his wife.

"By Heaven, Celine, what does this new prank of yours mean?"

Celine remained calmly leaning back after the first outburst of her merriment, gave a few whiffs of her cigar, blew the smoke in little clouds towards Otto, and then said coolly—

"Well, Otto, one wishes sometimes to do something out of the common way, and I am so tired of my long riding-habit that I thought I should like to try and ride without that incumbrance."

"You don't mean to say that you intend to ride out like this, and be the laughing-stock of your servants and of all who happen to see you?"

"Yes, I was about to do so," answered Celine, with provoking coolness.

"How did you procure that unbecoming dress? who provided it for you?" asked Otto, becoming warmer, and entirely forgetting, alas! with what feelings and good intentions he had entered the house.

"I got it myself and paid for it myself. At your service, my lord and husband."

"In Dilburg?"

"No; in Arnheim?"

"Then you have been in Arnheim without my knowledge?"



"Yes; yesterday when you came home I had just returned."

"So you have also deceived me, Celine," said Otto, bitterly.

Now Celine sprang up.

All her assumed or real coolness at once left her, her eyes began to sparkle, whilst in a loud voice, indicating her rising passion, she cried out—

"Deceive! Who dares to say that I deceive or ever have deceived anyone? Do you know who it is that people deceive? Those whom they fear when they are cowards; but I am not a coward, and I fear no one in the world, and yourself least of all."

"You hardly need say that, Celine," added Otto, in the same bitter tone. "If you felt the smallest regard, the least respect, for me, you would not act as you do."

"What is it that I do? What is it that I wish? Nothing but to amuse myself in my own way. What harm is there in my amusing myself by riding in this dress? What harm could you find in it, were it not for the old, silly fear of public opinion, which with you is above everything else? Have I had so much pleasure in my life, Otto, that you should embitter the little that I can enjoy?"

"It is not my fault, Celine, that you have had so little enjoyment. You have voluntarily withdrawn yourself from everything that made your life like that of other women, and that would have enabled you to take part in their amusements and pleasures?"

"How dare you speak of that?" exclaimed Celine, in a tone of violent passion. "Who is it that has driven me out of society by cavilling and fault-finding? Who is it that has deprived me of the wish to shape my course according to the accepted, tedious, trifling customs of the world which is your idol? Where is the love and patience with the hope of which you tempted me into marriage? What has become of my happiness which you have taken into your own hands? Do you know what has become of it? That every morning I wake with the wish to be at rest in my father's grave; that every evening I pray that I may not wake again; that hell itself does not appear to me so fearful as my present life; that I hate you for the happiness of my life which you have stolen from me; that I despise you for the weakness and little-mindedness which are the principal traits of your character."

At these last words Otto became deadly pale. The passionate rapidity with which

they were screamed rather than spoken by Celine, her voice rising higher and higher, the angry glances which came like lightning from her eyes, struck Otto as if a knife were thrust into his heart.

At the last reproach of weakness and little-mindedness he raised his head, and his face expressed wrath and scorn.

"Weak I was, Celine," he exclaimed, "very weak indeed, but that is passed now, I hope. But even my weakness might be excused when a fury and not a woman stands before me. Let us finish this unworthy wrangle. I swear now that you shall not ride out in this unseemly dress, or that I will prevent its repetition by sending a bullet through Schimmel's head when you come home."

"You dare—you dare to lay a finger on Schimmel, and you shall see what will happen to you! Let me pass."

Otto, with an involuntary movement, had stepped back a little when Celine, after the first hasty words, came closer and closer to him. She now stood in the doorway between the two rooms, and with her last words she raised her whip.

At this threat every sensation in Otto was overcome by the feeling of insult to his dignity as a man, and his anger boiled up in him at the humiliation intended by Celine. In an instant the whip was snatched by Otto out of Celine's hand, and before she comprehended his intention, she was thrust back by his strong arm into her own room.

"She who behaves like a naughty child must be treated like a naughty child," said Otto. "Here you must remain till you have changed this foolish dress for one befitting your sex, and have given it up to me. As my wife cannot take proper care of her own good name, I must do so; and with all the weakness with which you reproach me, Celine, you shall find yourself mistaken in thinking that I shall be subservient to you in matters which I believe to be unbecoming to my wife."

Celine sank down into the chair where she had been sitting when Otto first entered.

She looked intensely pale, but made no effort to oppose him; but her large dark eyes, which still glowed with passion, followed all his movements whilst he took the key, which was in the inside of the door, out of the lock, and passed from the room.

He had hardly shut the door and turned the key, when he heard Celine's laugh—not her usual silvery laugh, so pleasant to the ear, but a loud, unnatural sound.



Otto put the key in his pocket, and stood still for a moment, pressing his hand on his beating heart, whilst the cold sweat stood in drops on his forehead.

So pale, so cast down, he stood motionless by the door he had shut, overwhelmed by the scene which had taken place between his wife and himself, grieved from the bottom of his soul at the words she had applied to him, and outraged in the highest degree by the degrading treatment to which, but for his unexpected resistance, he would have been subjected.

Bewildered by the different sensations which agitated him, he staggered to a chair, and, his head leaning over a table, there came from his breast sighs and sobs which bore witness to the intolerable martyrdom of his soul.

And what mingled thoughts crossed his mind when he had so far recovered himself as to be able to think!

How dear Celine had been to him; how sacred the promise he had made to make her happy; and with what good intentions he had even in that very hour entered his home.

And what was the end of it all? — that she had told him plainly that she hated and despised him, and thought death preferable to life as his wife.

Celine had reproached him with narrow-mindedness. Was he narrow-minded in not letting her ride out in man's attire? It was a proceeding which no man should permit his wife to take, if he set any value on her good name.

And she had called him weak. It might well be that he was weak towards Celine, and that he had thus lost her respect and affection; but this reproach should from this day be no longer applicable to him.

From this very hour he would be her husband and master, and not the slave of her humours and fancies; and her stubbornness itself should bend to the strength of his will. He felt all too strongly that Celine's hard, insulting words had snapped the last tie which attached him to her; that he now would act as he never could before, so long as the hope of better days and of winning her affection had induced him to spare her and treat her with indulgence. In his excitement he saw with pleasure the day approaching which should bring to Celine the conviction that he had found her master in him. Sooner or later he would extinguish her insolence; he would break her pride; he would transform her unbridled wilfulness into obedience, even if it were to be a contest of life or death.

But all at once Otto was disturbed in his meditations. He heard the tramp of a horse under his window, and a loud, well-known laugh reached his ear from below.

In wild haste he rushed to the window and opened it, and there sat Celine on horseback in her male attire.

With a mocking expression in her face, which was glowing with excitement, she looked up, took off her cap to him, and at the same moment, giving her spirited horse a sharp stroke with the whip, she dashed off at full gallop across the lawn, and down the slope from the terrace to the brook.

Otto held his breath with anxiety when he saw the animal take an almost impossible leap over the broad brook; an instant later he saw Celine, unharmed, flying across the meadow which stretched beyond; and he then turned away his gaze from her.

Almost involuntarily he unlocked the door of her room, where the open window showed clearly how she had escaped. When Otto saw the dangerous jump she must have taken to reach the roof of the stable, how from thence she must have crept along the gutter, and got in at the window of the hayloft, and so down to the ground, he shuddered; but every other sensation gave place to that of deep scorn when he saw on a table by the window a paper, on which, in Celine's handwriting, were the following absurd lines:

Otto, would you keep me sure,  
Build a house with bars secure;  
Without them 'tis no prison — lo,  
I open the window and out I go!  
Learn, good sir, I'll have my way;  
You cannot force me to obey.

In fierce anger Otto crumpled the paper in his clenched hand, and then sank into a chair overcome by the bitterest thoughts.

He would conquer his wife; his wife should yield to his will. No, the idea of his powerlessness came over him with overwhelming force, and filled him with a sensation of dull, hopeless helplessness, which made all further thought impossible.

He sat there motionless, his eyes fixed as if gazing into a cloud which embraced the past, the present, and the future, almost without feeling or consciousness, like a person in a dream, without notion of time, place, or personality.

How long he there remained he could not afterwards recollect. The first impression he received was a strange confusion of voices on the terrace below, an unusual

running upstairs and through the rooms, and at last the calling out his name brought him to his senses, and he sprang up. His housekeeper stood before him. A glance at her pale face told him sufficient to produce in him a cold shudder from head to foot.

"Has anything happened to my wife?" he stammered out with a voice almost soundless, and hollow, bewildered eyes.

The housekeeper nodded assent, being almost without the power of speaking. When Otto wished to pass by her, she held him back.

"They are bringing her in," she whispered; "a bed has been prepared in the room below. For Heaven's sake be calm." A few moments later, Otto went with tottering steps to meet the labourers who were carrying his wife towards the house carefully on a mattress. They had taken her up for dead below on the dike, which in her wild flight she had tried to ride up by a rough path. At the last steep part of it the horse had slipped down, and, falling with its rider over and over, had at last come down with its whole weight on her body.

She rested in Otto's arms as motionless and cold as a corpse, when he took her from the mattress, carried her into the house, and placed her upon the bed already prepared for her.

A great confusion followed. Servants ran here and there; inquisitive persons came up to the house; messengers were sent in all directions to obtain medical assistance; and meanwhile the despairing husband knelt by the apparently lifeless body of his wife, covered her cold hands with his warm kisses, whilst hot, bitter tears sprang from his eyes — forgetting all that had passed, and insensible to everything but the torturing consciousness that the wife whom he once so passionately loved had parted from him in anger and quarrel, and would probably die without one word of forgiveness and reconciliation.

In the despair of his heart he called her by name with the tenderest caresses; but these, no more than the restoratives applied by the housekeeper, could wake Celine from her stupor.

There she lay motionless, as if dead, a painful expression on her marble-white face, which seemed yet paler in contrast with the dishevelled black locks which lay spread over the pillow — beautiful as a picture even at this moment of uncon-

sciousness bordering on death, and scarcely showing by her faint, almost imperceptible breathing that she still belonged to the living. A painful half-hour passed without bringing any change. The messenger came back from Dilburg breathless, followed immediately by the doctor's carriage, which the longing eyes of the housekeeper had seen coming along the approach. At the same moment that she left the room to meet the doctor and to give the necessary directions, the door was burst open violently, and the dog Caesar, who had got loose from the stable, sprang yelping into the room. With a second spring the faithful animal was by the bed of its mistress; before Otto could hinder him he had placed his fore feet on the pillow, and licked her pale face with a mournful howl. She opened her eyes for an instant, and whilst they rested on her beloved dog a faint smile played on her lips. She tried to lift up her hand to stroke him but a painful cry escaped her even at the little movement.

Again she closed her eyes, and again unconsciousness seemed to hold fast her senses, when Otto's voice — his despairing prayer for one word, one look of forgiveness before she left him — seemed once more to call her back to life.

Whilst already the pallor of her cheek was changing into the hue of death, she once more raised her great dark eyes on her husband with an indescribable look, so soft, so loving and imploring, a look that spoke more than all words could have said — forgiving and asking for forgiveness.

Otto's emotion was too great to admit of his uttering a word. He bent low over Celine, and the kiss which he gave her lips, which were already stiffening, was answered; they might perhaps be said to be the first kisses of mutual, true, and real love.

The first and the last.

At that instant the report of a gun fired in the immediate vicinity of the house came through the room.

As if roused by an electric shock, the dying wife sat up straight, and, whilst her eyes opened wide, her lips whispered the hardly intelligible words, "Poor Schimmel!" and she sank back a corpse.

What Celine had in her last moment instinctively surmised was true; the shot that she heard released from suffering her favourite horse, which had been brought home with both its fore-legs broken

From The Contemporary Review.  
ON PRAYER.

## I.

THE Editor of the *Contemporary Review* is liberal enough to grant me space for a few brief reflections on a subject, a former reference to which in these pages has, I believe, brought down upon me a considerable amount of animadversion.

It may be interesting to some if I glance at a few cases illustrative of the history of the human mind in relation to this and kindred subjects. In the fourth century the belief in Antipodes was deemed unscriptural and heretical. The pious Lactantius was as angry with the people who held this notion as my censors are with me, and quite as unsparing in his denunciations of their "Monstrosities." Lactantius was irritated because, in his mind, by education and habit, cosmogony and religion were indissolubly associated, and, therefore, simultaneously disturbed. In the early part of the 17th century the notion that the earth was fixed, and that the sun and stars revolved round it daily, was interwoven in a similar manner with religious feeling, the separation then attempted by Galileo arousing animosity and kindling persecution. Men still living can remember the indignation excited by the first revelations of geology regarding the age of the earth, the association between chronology and religion being for the time indissoluble. In our day, however, the best-informed clergymen are prepared to admit that our views of the Universe, and its Author, are not impaired, but improved, by the abandonment of the Mosaic account of the Creation. Look, finally, at the excitement caused by the publication of the *Origin of Species*, and compare it with the calm attendant on the appearance of the far more outspoken, and from the old point of view, more impious *Descent of Man*.

Thus religion survives after the removal of what had been long considered essential to it. In our day the Antipodes are accepted, the fixity of the earth is given up, the period of Creation and the reputed age of the world are alike dissipated, Evolution is looked upon without terror, and other changes have occurred in the same direction too numerous to be dwelt upon here. In fact from the earliest times to the present, religion has been undergoing a process of purification, freeing itself slowly and painfully from the physical errors which the busy and uninformed intellect mingled with the aspiration of the

soul, and which ignorance sought to perpetuate. Some of us think a final act of purification remains to be performed, while others oppose this notion with the confidence and the warmth of ancient times. The bone of contention at present is the *physical value of prayer*. It is not my wish to excite surprise, much less to draw forth protest by the employment of this phrase. I would simply ask any intelligent person to look the problem honestly and steadily in the face, and then to say whether in the estimation of the great body of those who sincerely resort to it, prayer does not, at all events upon special occasions, invoke a Power which checks and augments the descent of rain, which changes the force and direction of winds, which affects the growth of corn, and the health of men and cattle—a Power, in short, which, when appealed to under pressing circumstances, produces the precise effects caused by physical energy in the ordinary course of things. To any person who deals sincerely with the subject, and refuses to blur his moral vision by intellectual subtleties, this, I think, will appear a true statement of the case.

It is under this aspect alone that the scientific student, so far as I represent him, has any wish to meddle with prayer. Forced upon his attention as a form of physical energy, or as the equivalent of such energy, he claims the right of subjecting it to those methods of examination from which all our present knowledge of the physical universe is derived. And if his researches lead him to a conclusion adverse to its claims—if his enquiries rivet him still closer to the philosophy enfolded in the words, "He maketh his sun to shine on the evil and on the good, and sendeth rain upon the just and upon the unjust"—he contends only for the displacement of prayer, not for its extinction. He simply says, physical nature is not its legitimate domain.

This conclusion, moreover, must be based on pure physical evidence, and not on any inherent unreasonableness in the act of prayer. The theory that the system of nature is under the control of a Being who changes phenomena in compliance with the prayers of men, is, in my opinion, a perfectly legitimate one. It may of course be rendered futile by being associated with conceptions which contradict it, but such conceptions form no necessary part of the theory. It is a matter of experience that an earthly father, who is at the same time both wise and tender, listens to the requests of his children, and,

if they do not ask amiss, takes pleasure in granting their requests. We know also that this compliance extends to the alteration, within certain limits, of the current of events on earth. With this suggestion offered by our experience, it is no departure from scientific method to place behind natural phenomena a universal Father, who, in answer to the prayers of His children, alters the currents of those phenomena. Thus far Theology and Science go hand in hand. The conception of an æther, for example, trembling with the waves of light, is suggested by the ordinary phenomena of wave-motion in water and in air; and in like manner the conception of personal volition in nature is suggested by the ordinary action of man upon earth. I therefore urge no *impossibilities*, though you constantly charge me with doing so. I do not even urge inconsistency, but, on the contrary, frankly admit that you have as good a right to place your conception at the root of phenomena as I have to place mine.

But without *verification* a theoretic conception is a mere figment of the intellect, and I am sorry to find us parting company at this point. The region of theory, both in science and theology, lies behind the world of the senses, but the verification of theory occurs in the sensible world. To check the theory we have simply to compare the deductions from it with the facts of observation. If the deductions be in accordance with the facts, we accept the theory; if in opposition, the theory is given up. A single experiment is frequently devised by which the theory must stand or fall. Of this character was the determination of the velocity of light in liquids as a crucial test of the Emission Theory. According to Newton, light travelled faster in water than in air; according to an experiment suggested by Arago, and executed by Fizeau and Foucault, it travelled faster in air than in water. The experiment was conclusive against Newton's theory.

But while science cheerfully submits to this ordeal, it seems impossible to devise a mode of verification of their theory which does not arouse resentment in theological minds. Is it that while the pleasure of the scientific man culminates in the demonstrated harmony between theory and fact, the highest pleasure of the religious man has been already tasted in the very act of praying, prior to verification, any further effort in this direction being a mere disturbance of his peace? Or is it that we have before us a residue of that mysticism

of the middle ages which has been so admirably described by Whewell—that “practice of referring things and events not to clear and distinct notions, not to general rules capable of direct verification, but to notions vague, distant, and vast, which we cannot bring into contact with facts; as when we connect natural events with moral and historic causes.” “Thus,” he continues, “the character of mysticism is that it refers particulars, not to generalizations, homogeneous and immediate, but to such as are heterogeneous and remote; to which we must add that the process of this reference is not a calm act of the intellect, but is accompanied with a glow of enthusiastic feeling.”

Every feature here depicted, and some more questionable ones, have shown themselves of late; most conspicuously, I regret to say, in the “leaders” of a weekly journal of considerable influence, and one, on many grounds, entitled to the respect of thoughtful men. In the correspondence, however, published by the same journal are to be found two or three letters well calculated to correct the temporary flightiness of the journal itself.

It is not my habit of mind to think otherwise than solemnly of the feeling which prompts prayer. It is a potency which I should like to see guided, not extinguished, devoted to practicable objects instead of wasted upon air. In some form or other, not yet evident, it may, as alleged, be necessary to man's highest culture. Certain it is that, while I rank many persons who employ it low in the scale of being, natural foolishness, bigotry, and intolerance being in their case intensified by the notion that they have access to the ear of God, I regard others who employ it as forming part of the very cream of the earth. The faith that simply adds to the folly and ferocity of the one, is turned to enduring sweetness, holiness, abounding charity, and self-sacrifice by the other. Christianity in fact varies with the nature upon which it falls. Often unreasonable, if not contemptible, in its purer forms prayer hints at disciplines which few of us can neglect without moral loss. But no good can come of giving it a delusive value by claiming for it a power in physical nature. It may strengthen the heart to meet life's losses and thus indirectly promote physical well-being, as the digging of Æsop's orchard brought a treasure of fertility greater than the treasure sought. Such indirect issues we all admit; but it would be simply dishonest to affirm that it is such issues that are always in view. Here, for

the present, I must end. I ask no space to reply to those railers who make such free use of the terms insolence, outrage, profanity, and blasphemy. They obviously lack the sobriety of mind necessary to give accuracy to their statements, or to render their charges worthy of serious refutation.

JOHN TYNDALL.

## II.

In a paper published in the *Contemporary Review* of July last, I made a proposal to ascertain, by a practical test, the value of prayer on behalf of the sick. It was my aim to invite the attention of all thoughtful persons, but I desired co-operation, especially from those who have a firm belief in the value of such prayer. Strange to say, none of the latter have responded in a favourable sense. Indeed, by many, my proposal has been called profane, irreligious, and by other similar epithets; while in the numerous articles which have appeared on the subject, I myself have been termed materialist and infidel, whatever those appellations may signify. Nevertheless, I have often observed invitations to united prayer issued for various objects to the "religious world," such as for the prosperity of Sunday-schools, the conversion of the Jews, or of foreign peoples to Christianity, and that the invitations have been largely and devoutly complied with. In the last-named instance I have read glowing descriptions of the obvious answers that have been vouchsafed to such prayer, and I have even seen numerical estimates of the conversions which have thus been effected. Yet, and with equal solemnity, I have said to the religious world, "Let us pray," and the religious world has declined the exercise! This strikes me as a remarkable circumstance, and I propose to inquire why it has occurred. For the object of prayer — the recovery of the sick — is, as I have formerly shown, universally admitted by the Christian Church to be a legitimate one. And the ultimate aim of my proposal was, that the value of prayer might be not only estimated, but also utilized to a larger extent than heretofore on behalf, at any rate, of our great charitable institutions. What was there in this to warrant the opposition, the abuse, the attempt to affix the "odium theologium" which the proposer encounters? Why, indeed, was my suggestion not regarded with favour by professedly religious people, and embraced with that activity and fervour which certainly would have been manifested by

many had I proposed special services for the conversion of the "heathen," instead of for the recovery of the sick? I propose at the outset to pursue this inquiry.

Some things seem to have been wholly lost sight of, or not understood by my opponents. Among these I must include the Rev. R. F. Littledale, whose paper on "The Rationale of Prayer" appeared in the August number, so far as he criticizes my proposal, although the article mainly applies to Professor Tyndall.

Now, at the outset, that which strikes me most forcibly, and I must confess which painfully shocks me, is the extreme ignorance of what is comprehended by the exercise — prayer — and the really irreligious state of heart, if I may borrow what is almost a theological metaphor, manifested by my critics, especially those who write from the *soi-disant* "religious" side of the question. For example, while I specifically designed an inquiry to ascertain the value of "prayer for the sick," and by means of this, the value of direct petition for material benefits of any kind as classified by me, I am charged with denying directly or by implication, the value of prayer altogether! It scarcely seems to enter into the schemes of my opponents, that, to some minds, especially may I say to the minds of the much abused physicists, the larger and more important part of prayer is that which is in no sense of the words a petitioning for benefits. Dr. Littledale, in replying to Professor Tyndall's obvious allusion to this larger sense — in a passage quoted — denies that it has that meaning, and terms the secondary or reflected benefit arising to the mind from prayer for good to which he limits it "An Immoral Sham," and is at a loss to guess what kind of a God he (the Professor) is willing to pray to, or what kind of blessings he is prepared to pray for." Mark — "blessings to pray for" — always petition, and beyond petition, nothing! Professor Tyndall can well take care of himself, and I shall interfere in no part of the question between himself and Dr. Littledale, except so far as it concerns views which I myself hold. Besides, I have not the least means of knowing what the belief of Professor Tyndall may be, except through his writings, having but once spoken to him on the subject of my former paper, and having had no sort of communication with him of any kind since. I am compelled to say this, lest he may be held answerable for any opinion of mine, except so far as his note of July last indicated. If prayer be nothing more than



asking a Deity to confer, as gifts, many things which, to our little vision and narrow circles of observing, appear desirable, then I for one, in common with many other "physicists," have long laboured under a delusion; and one of the nobler effects of prayer, I learn from the lips of a divine, to be little better than "a fit of voluntary hysterics," a condition, let me observe, twice applied to his opponents in the course of one article, I think I may fairly say with as little of real meaning as of good taste. However, I am willing to believe he is unacquainted with the malady.

I can understand how, in this practical and material age, as it has become the fashion to call it, the great bulk of mankind has come to associate the idea of acquiring good, and that idea only, with the exercise of prayer. To ask that God may protect us in danger, that a carriage may convey us safely, that a medicine may be blessed, and so help us to get to our business again, that the rain may fall in the fields about us, when the crops are taking harm for want of water, is the natural outcome of a man whose great aim in life — no doubt a legitimate aim — is to better himself. And it is very, very much in accord with the needs of an increasing population, when that aim becomes perhaps more difficult than ever of attainment. It is deemed nobler to ask for a clearer intellect, for greater self-control and a mastery over passions; a not less material good each one, after all, and not less valuable in pursuing the aim described; computable, therefore, as pecuniary values equally with the preceding goods, if need be, but by a more complex process. All such prayer springs from the instinct of self-preservation, of selfishness, if you please. But if this be the common faith the common people have not been left to arrive at it by that road alone. Their religious teachers have through all time inculcated the self-seeking petition as a duty, and have called it "prayer:" perhaps no religious office has been more extolled, or more regarded as essential to religious life. And their teachers, especially those of the Ancient Church, have derived large revenues from its exercise by way of petition, especially for the preservation from suffering in a future state, of individuals who have been able to pay largely for the influence so exercised with the Deity. I observe that Dr. Littledale is evidently favourable to the exercise of this function (p. 453).

But since prayer has thus been so largely regarded and utilized as a means of

augmenting wealth and comfort, I and others can scarcely be deemed irreligious, because, although very willing to accept these goods, we are compelled to doubt the value of the means employed for obtaining them. Moreover, it is greatly disappointing at first to the matured man to be thus forced to question it, having believed it implicitly by force of education when a youth. Indeed, the sincere honest doubt can scarcely arise except in a devout mind, in a mind earnestly desirous to find the truth, and to accept it, however painful it may at first sight appear. The cessation to believe in the value of petition to the Most High is at all events an acknowledgement of a power lost, a thing which all men part with reluctantly. The merely indifferent man, caring for none of these questions, will, if he think at all, exercise a worldly common sense, and say, "all the world prays: what all the world has done must be right: if there be any value in prayer (petition), why should I deprive myself of it?" And behold he prayeth! — after his fashion. Now, "all the world prays," in that man's mouth, is as good reasoning as Dr. Littledale's, when he argues for the value of prayer from its universality (p. 437 and p. 443). I shall presently consider the question of its practice throughout the world, and of the efficacy of prayer by way of petition, but will first endeavour to show what prayer may be according to the views of a physicist, and which, in all the criticisms I have read, never seems to be so much as dreamed of. Hence my painful sense of the want of real religious feeling outside the circle said to be so exclusive, and incapable of any lofty conceptions, or of any aims, indeed, beyond purely scientific investigation (p. 450).

I am a physiologist, say, belonging to a section of the "narrow" physicists — or a geologist. I am engaged in a search after the manner or nature of work exercised by some great power infinitely beyond me. What wonder and admiration overwhelm me as I trace the operation of a Supreme Intelligence! I may, or may not, anthropomorphize that Power and call "Him" "Creator," "Deity," "Father," what you will: terms all equally good, but alike inadequate to imply the object or source of that inexpressible sense of admiration which fills me. Each term, feeble enough, and but slightly differing one from the other, in presence of the All Supreme, and in the act of tracing the symbols of originating Mind, in the happily untranslatable text which oc-

cupies the patient and humble seeker after fact. An original, revealing beauty beyond imagining, power, resource, and order of the grandest kind. An unerring order, which, in our experience, knows no exception, is all-sufficient, and furnishes to us, its children, the highest type and model of perfect organization. Do I quail before the inexorable decree, the "necessity" of that Order, if you please? Or, may I not rather rejoice in it—confide, hope, trust in it; know that my own place is a part of the grand whole, and do my work unquestioningly and unsuggestingly? There is no influence so soothing, none so reconciling to the chequered conditions of life as consciousness of the absolute stability of the Rock on which the physicist takes his stand; who, knowing the intelligent order that pervades the Universe, believes in it, and with true filial piety would never suggest a petition for a change in the Great Will as touching any childish whim of his own. I cannot express my repugnance at the notion that supreme intelligence and wisdom can be influenced by the suggestion of any human mind, however great.

It is thus that we may breathe the true spirit of communion with the Unseen, here realize a sense of dependence upon that which is too great to be moved, and gladly cherish submission to the only mastership found to be unchanging and sufficient. Here the physicist fears no catastrophe, regards calmly all that happens, whatever it may be, as the outcome of the forces that exist. His work, and the work of all men, the only work that satisfies and endures, is the finding and maintaining of truth so far as he knows it, freely giving equal license to every other man to do the same. Comparing as we do at this moment our observations and experience, and in the clash of thought evoking truth, victory for whichever side matters not to him, since it surely will in the end be for the side of truth. For the future he has no anxiety: the supreme Order in which he has a place and work cannot fail to provide, and he submits, without suggesting limits or a definition to the plan he never could have devised and cannot compass; too glad to believe that all such order is not to be influenced by human interference.

Such a spirit enters into a man's life, is part of it, needs no special seasons or excitement to evoke it: it is in him, burning spontaneously, and is not added from without by any "means of grace." Such is the devotion of the physicist, and the

work of such a life is a perpetual prayer, an identification and communion of the worker with the spring of all force and power. Doubtless Luther felt this when he uttered his famous "*laborasse est oris-se.*" It may or may not be the spirit of Christianity according to the Church, but it is founded in truth. Is it not the realization and final consummation of all prayer, all even of petition—last arrived at in man's course—culmination of all matured piety expressed in the memorable ejaculation, "*Thy will be done*"?

But I am told that the profanity of my proposal consists in its object, inasmuch as this was not the recovery of the sick, but an endeavour to estimate by figures—that is, scientifically—that is, truly, nothing more—the value of petition on their behalf. And I am gravely told that the Most High would never answer prayer with such an end in view.

Oh, little estimate of the Supreme! My mind revolts against the tiny finite who thus seeks to measure by its own frail and irritable temper the quality of the Infinite. Are His thoughts as our thoughts, or His ways as our ways? Shall prayer, which at least is unselfish and aims only at attaining truth, be so hardly dealt with on high? Has it not an aim as noble as the prayer that an army may be successful in killing, or that our people may amass greater wealth? Far be it from me to prescribe a limit to Almighty will, and power, and goodness; to presume to assert how human motives are weighed by supreme wisdom. I could judge, no doubt, as to the result, were a narrow human mind to rule the universe, if such an intolerable idea be not too shocking. I do not think a great benevolent human ruler, a more than father to his creatures, would refuse to show what power his children might obtain by asking, supposing that he had repeatedly exhorted them to ask, and had promised to give liberally to all. In making such a supposition, I do but follow my opponent's cue; and have no intention of lowering my ideal of a supreme power to any likeness of anything in earth or sky. Only on their own showing I contend that my critics are not warranted in denying, that a good Deity would probably regard with favour my request. I quite understand that, with the mental and moral constitution often attributed to Deity, some sense of affront to his personal dignity might perhaps be imagined by some men to stand in the way of the divine compliance. That is evidently the notion intended. Is it more ridiculous, or is it more painful to learn,

that to such a miserable and primitive type the idea of God has descended, and that in a nation which vaunts itself not "Heathen"?

The question comes home to me very forcibly, more so than it ever did before:

—Do these people believe in the efficacy of petition? Does the religious world really believe that the Sunday services affect the health, the wealth, the wisdom of the prayed-for; diminish the deaths, increase the products of the fields, preserve from accidents, &c., &c.? Do they think that without such prayers there would be more deaths and smaller crops? It either is, or is not so; and no discussion about direct and indirect influence will avail one jot to obscure the question. Is the world to go on forever with such a problem unsolved? Will men be much longer content to be uncertain how far all the phenomena of life and its surroundings are obedient to perfect order, and are regulated by supreme wisdom, or how far they are influenced by the infinitely small and ignorant?

I know it will be retorted that Divine wisdom selects the petitions, and answers only such as are wise and good, that is, such as are in perfect accord with itself, so that none need fear any undue meddling with the universal order. Why then petition? If all is to be left to infinite wisdom after all, why make, certainly ignorant, perhaps impertinent, suggestions? and who are they, even with "the gift of prayer" (p. 448), who shall ask in perfect harmony with the Divine thought?

But suppose some wise, what is the highest wisdom attainable here in relation to that which rules the mighty scheme? To a physicist, less than nothing and vanity! He who most studies, most endeavours to search, who labouring ever on the verge of the unknown, meekly, patiently, earnestly tries to press forward the slowly advancing realm of the known into the infinity of the dark unknown, will be the most ready to confess his ignorance, and will never presume to carry it, in the form of any petition for interference, into the court of the Most High. He knows but one desire, the prayer for "more light;" but he knows too that he must achieve his end by untiring labour; and that no light ever entered this world, within human experience, except in reward to much labour. And so again, "laborare est orare."

Thus much for two of the chief grounds for non-compliance on the part of the religious world with my proposal — their inadequate conceptions respecting prayer it-

self, and, secondly, their views of what it is reasonable to suppose might be the relations of a great, wise, and good Deity with His creatures.

I now desire briefly to show why it is difficult to believe that events are affected by petition to a supreme power; such as, for example, the recovery of the sick, the improvement of the weather, the health and wealth of particular persons, the preservation from murder and sudden death, &c. I may confess that my own very grave doubts on this question impelled me to propose a test. Dr. Littledale, in referring to the test, makes the following remark, with which I entirely agree, and which might have formed a motto (had it then been written) for my former paper; and how it is applicable to me in any sense of admonition, I am at a loss to conceive:—

"A really scientific temper would say, 'The fact of the existence of this phenomenon' [the habit of prayer] 'entitles it to respectful consideration; the fact that all inquiry in lower spheres of knowledge testifies to the truth of normal sequence, perhaps of law, makes it antecedently probable that prayer also belongs to a sphere of law, and has a definite purpose in the economy of the universe; since, if it had no such purpose, it would not, and could not, exist at all. Therefore, instead of irrationally denying its efficacy, let us examine its practical operation, without insisting on deductively accommodating it to a preconceived hypothesis.'" (P. 451.)

Is this not exactly what I proposed to do?

He adds another remark to the same purpose, which to most readers would seem almost profane, and had I uttered it, what a torrent of abuse would have been called forth, and deservedly so; for I should have been guilty of using language which, however just, would have been unjustifiable in me, because it would do unnecessary violence to the best sentiments and the religious feelings of many excellent people. I refer to the following:—"For I can see no reason why prayer as an actual fact in the universe should not be investigated as patiently and exhaustively as tobacco" (p. 437). Somehow, from the pen of the Reverend Dr. Littledale, these words excite no criticism!

I believe that I may safely assume that all will agree, that certain events within everybody's knowledge have always happened with such absolute regularity that no one would dream of petitioning heaven for any change in their modes of occurrence: events, the order of which has never been disturbed during the historic

period. Let me instance the rising and setting of the sun, the movements of the tide, the decay and death of all organized bodies; many more will suggest themselves to every mind. It is quite beside the mark to enter upon any metaphysical discussion of the terms law, order, relation of cause to effect, and so forth. It suffices for our purpose that no sane and moderately intelligent person would dream of praying that the sun may appear on the morrow an hour sooner or later than his appointed time, that the action of the tide may be suspended or reversed, or that decay and consequent death may not take place in any given case. People pray for prolongation of life or postponement of death, but no one thinks of asking that the event may never arrive. Why is this, and why does the practice of not praying for such things obtain among those who believe in the efficacy of petition for, let us call them, smaller matters? Simply because the person praying has an absolute conviction that the events in question are so fixed, unaltering and unalterable, that they are beyond the scope of prayer. So we see that practically, and beyond all dispute, the phenomena of the universe are ranged by people who fully believe in the efficacy of petition in two categories; a class, which I shall call number one, respecting which it is quite useless if not presumptuous to pray; and a class, number two, of events which are the legitimate objects of prayer. Now it is curious to observe that there is no agreement at all among religious people as to the principles on which such classification is to be made. Some persons will place a much larger proportion of subjects in Class I. than others will, and *vice versa*. Had the objects which can be influenced by prayer been authoritatively defined, and particularly the objects specified which cannot be so influenced, a useful work for the Church would have been accomplished. For, without such guidance, many people must (from ignorance) be asking God for things which are unattainable in this manner; while others are not asking for good which might be so procured. In first examining this question I called the Book of Common Prayer to my aid, and although I found by inference some little indication of an answer there, it is by no means a satisfactory or complete one. The common sense, shall I say, of some people, or the more precise intelligence of others, leads them to regard some objects as certainly not to be attained by petition. Thus, one of my opponents says, "of course it

would be useless to pray for recovery in the case of hydrophobia," although he thinks that less severe maladies might be much modified through the influence of prayer. I notice this because the idea is a typical one, and embodies the practice of a great number who might still hesitate so plainly to express in words their real belief. They summon Almighty power when the requirement is not considerable, but when, as in the case of a formidable disease above quoted, the power of medicine appears to be nil, they have little or no hope from an appeal to Omnipotence.

But if the theory be true, that petition to the Deity is an available power to influence human events, then the line of demarcation referred to must absolutely exist. There is no escape from this inference. It is either right and reasonable to pray for an alteration of the earth's course round the sun, or it is not. There must be a category of events not affected by prayer, and there should be a category of events, if my opponents are right, which can be so affected. Now I contend they are bound to define these categories. They are bound to say what may be prayed for, and what must not be prayed for. I offered to aid in the inquiry by a practical test — a test which I am still quite ready to prove to be practicable, if necessary, in spite of all that has been said against it, and of the objections to it, which, it is rightly stated, I have myself foreseen. If they concede, as they must, that the alteration of a star's or of a planet's course is not a fit object of petition, the *onus probandi* of explaining why, and also of stating what objects may be prayed for, rests with them. If they consent to make every event a legitimate object of prayer, then they are released from this obligation, and not otherwise.

But what has been the practical mode of arranging the two classes hitherto, for that they have been recognized by religious people in all time, although perhaps almost unconsciously, is obvious? The comprehensiveness of either class has varied at different periods, but precisely in obedience to the intelligent acquaintance of mankind with physical phenomena — nothing more; there is the whole secret. In the early stages of man's history, when his acquaintance with those phenomena was far from intelligent, he was ready to make almost any event the object of petition to some imaginary unseen power, to any deity, or the many deities by which he fancied himself to be surrounded; deities, he it remarked, of a malevolent or adverse

character towards him; a belief natural enough to a man surrounded by the forces of nature which as yet he could not tame or teach to do his bidding.

This dilemma, however, soon called forth an intermediate man, who obtained his share of food and shelter without labour, by claiming to possess some influence with the deity to be propitiated, or coaxed into compliance. Naturally, any occurrence might then furnish an object of petition; the credulity and ignorance of the worshipper, and the daring and tact of the intermediate man, being the two factors from which almost any absurdity was producible. From that time to the present, advance in knowledge has enlarged the class of objects not to be prayed for, and has also by equal steps diminished the pretensions of the intermediate man, producing in his place the priest, now an educated and conscientious teacher. It is not marvellous, however, that he is always in antagonism with the physicist. For it is solely due to the observation, labour, and thought of the patient searcher into the physical conditions of the universe, that, year by year, during the world's history, its phenomena have been removed from the realm of the providential and supernatural, and placed in that of natural and unvarying order. Thus it is that Class I. grows larger day by day, while Class II. diminishes in like proportion. Where shall this progress stop? Will any say, it stops to-day; or, a year hence; — or that it will not continue to go on as long as one single intelligent scientific worker dwells on the globe? Class I. must inevitably grow larger and larger: Class II. as inevitably smaller. When, and where, will the professed believer in petition venture to draw the line between them? He must follow, drawn by inexorable power, in the wake of advancing science, and after hard resistance, as always; giving up one post after another, and resigning event after event, to be detached from the once great class of objects to be prayed for, and admitting their title of admission into the great class of settled and ordered events, not to be influenced by human interference, and capitulating with the best grace he may when forced to surrender.

So it follows, that what a man will pray for depends precisely on the extent of his intelligent acquaintance with the phenomena around and within him. The more ignorant he is of these and of their modes of occurrence, the larger his field for petition; the more intelligent, the smaller must be his range.

Past experience then makes it very probable that the class of phenomena which have an order as defined as that of the movements of the heavenly bodies, that is, a regularity without known exception, is a very large one. And there are many who, perhaps not unreasonably, believe the analogy thus offered to be so strong, that it is not improbable that there really are no events which are not equally determined by natural order, and might be equally foreseen and forecast, were we in possession of the necessary data.

To apply, by some means, a scientific method to solve a part of the problem was the sole object of my proposal. It is matter of extreme satisfaction to me to find an authority so respected as that of Dr. Littledale agreeing with me on the legitimacy of the object, and asserting that the efficacy of petition to Deity is a subject for uncompromising exhaustive scientific research. We differ as to the mode; the devotion of the hospital ward to the purpose. That is a mere trifle; I simply desired to raise the question and to call public attention to it. For a large majority of writers on this subject have laboured to show that prayer is not a fit subject for such an inquiry, and that I have sinned by laying a profane hand on the ark of God, in proposing to learn whether or no He will thus specifically aid us in the humane work of battling with disease, suffering, and death. Still I am no partisan of the scheme, and shall gladly listen to a plan which shall better attain our common end. For myself, I take leave of the controversy, the practical work of life which circumstances have laid on me, forbids my further participation at present in the inquiry. It is, evidently, full of interest for myriads of others also. As a contribution towards its solution, it is impossible to overrate Mr. Galton's laborious and scientific record relating to the subject, nor to overlook its importance. Had I done nothing more than elicit the production of this last work of his, I should have been amply content.

I have only to remind my former critics and any future ones, that it is beside the issue to term me or my views materialistic, fatalist, or the like.\* It forms no part of a candid reply to do so, and although many good people still respond to the prejudice so easily and so cheaply aroused by

\* Even Dr. Littledale, with all his desire to test scientifically the value of prayer, condescends to style me "a materialistic surgeon or physician," for proposing a method, and adroitly contrives to associate me in the same paragraph with Voltaire! For what end, but to cause prejudice, surely not to enforce an argument?



attaching epithets which have little meaning, and are really designed to be opprobrious, the great body of the public desire a rational solution of every important question, and have a right to expect its discussion unalloyed with adventitious matter of this kind.

THE AUTHOR OF "HINTS TOWARDS A SERIOUS ATTEMPT TO ESTIMATE THE VALUE OF THE PRAYER FOR THE SICK."

ATHENÆUM CLUB, Sept., 1872.

### III.

THERE is a story told somewhere, that when Copernicus divulged his theory of the earth running round the sun, a countryman came to him declaring that he would believe it when he saw it, and insisted on his working an experiment to give him ocular demonstration. I forget what Copernicus did; but I know that Francis Bacon would have said, "A man cannot enter the kingdom of nature in any other way than he enters the kingdom of heaven, by becoming a little child," and by submitting to what the Master teaches, and the rules of his school.

The experiment proposed in the paper forwarded by Professor Tyndall, is not conceived in the spirit of Bacon. Every one sees how unreasonable it would be to propose as a test of the efficacy of prayer that all the clergy of the Church, joined by all the dissenting ministers, should agree to pray that the sun should stand still on a certain day at noon, and to allow that prayer is of no value provided he went on in his course. We laugh at Rousseau's method of settling the question of the existence of God: he was to pray and then throw a stone at a tree, and decide in the affirmative or negative, according as it did or did not strike the object. The experiment projected by Professor Tyndall's friend is scarcely less irrational.

A man has to enter the one kingdom as he does the other, by a docile attention to its laws. But the laws of the two kingdoms are not the same. In the one the investigator must patiently watch phenomena, and settle everything by observation and experiment. But he would not thereby be required to submit to such a proposal as that made to Copernicus. The Christian has also a method which he follows, and he can explain it to those who may wish to follow it, and he can give good reasons for his belief in Providence and prayer; but he gets his

evidence in a different way from the man of science; and he is not obliged in logical consistency to test his belief in the way propounded in the paper inserted in the *Contemporary Review*.

(1.) The proposal is not consistent with the method and laws of God's spiritual kingdom. The project, in fact, is imperious, and is as little likely to be successful as the attempts by scientific men to force Nature to reveal her secrets by "anticipation" or by dogmatic reason. God's spiritual kingdom, like his natural, *non imperatur nisi parendo*. The project is not prescribed by God, nor is it one to which we can reasonably expect Him to conform.

Every intelligent defender of prayer has allowed a becoming sovereignty to God in answering the petitions presented to Him. A number of persons are in the ward of an hospital, and there are Christian visitors praying for them, for their spiritual improvement and for their recovery—if it be agreeable to the will of God. In answering this prayer, God may provide that some, or many, or all, or that few or none be cured, as it may be for the good of the persons praying, or the persons prayed for, or of the families and community to which they belong. And this sovereignty of God, always regulated by wisdom, is not to be interfered with by a proposal dated from the "Athenæum Club, Pall Mall," even if it has the sanction of one who, conforming to the methods of science, has performed very effective experiments on heat and sound. Every one sees that the world might be thrown into inextricable confusion were God necessitated to attend to such schemes, sanctioned in no way in his Word, or by the religion of Nature. In answering prayer, God has (to speak after the manner of men) to weigh a thousand circumstances, including the character of the men who pray, and the spirit in which they pray, and the character of those who are prayed for, and the influence they may exercise on society at large. A few years ago the late Prince Albert was in a raging fever, and hundreds of thousands were praying for his recovery. Must God answer these prayers by restoring the Prince to health, and this whatever be the consequences? It is said—on what I believe to be good authority—that shortly after the death of the Prince, the wise and good Queen of Great Britain declined following the counsel of her advisers, when they wished to proclaim war against America, and she did so because her departed husband was always opposed to such a fratricidal pro-

ceeding. We may put the supposition that the Prince, if alive, might not have had influence enough to stop the war, and that it could have been arrested only by the firmness of a woman inspired by regard for the dead. I enter in no way into the secret designs of God, but putting the supposition, I ask whether even the hundreds of thousands praying would have been entitled to insist that the Prince should be restored, when the result would have been the most unjustifiable and disastrous war of which our world has been the theatre? And might there not be equally weighty reasons why God should not spare more persons in the side of the hospital prayed for in the scientific experiment, than in the other side not so cared for by man?

It is said of our Lord that at a certain place He could not do many mighty works "because of their unbelief." In order to His hearing prayer, in order to His answering prayer, God requires faith—as large, at least, as a mustard seed. With the evidence which every man has furnished to him of the existence, the love, and care of God, this requirement is most reasonable. It can be shown that there is admirable wisdom in God's plan of connecting the acceptance of prayer and the answer to prayer with a previous or contemporaneous faith. And it can be shown that our Lord showed equal wisdom in declining to work miracles on every occasion. He always refused to work them for mere empty display, or to gratify the wonder-seeking spirit of the Jews. Where they demanded signs in an arbitrary manner, he told them they had enough of evidence, and declared that if they believed not Moses and the prophets, neither would they believe though one rose from the dead—a declaration which was realized when, a short time after, He rose from the dead, and the Jews continued as incredulous as ever. Suppose the proposed experiment succeeded for once, the scientific men would have some way of accounting for it, and would insist on the experiment being repeated once and again, which could be done only at the expense of deranging the whole of the delicately hung scales of Providence.

(2.) The project is not consistent with the spirit in which Christians pray. They pray because commanded to pray. They pray because it is the prompting of their hearts commended by conscience. They pray because they expect God to listen to the offering up of their desires. They pray because they expect God to grant

what they pray for, so far as it may be agreeable to His will and their own good. But they shrink from praying as an experiment,—a dutiful child would shrink from such an experimenting on the love of an earthly father. Such prayer, they feel, would imply doubt on their part, and might give offence to One who expects us to come to Him as children unto a father. They fear that it might look as if they required Him to answer prayer in a particular way, whether it may be for good or evil, and unjustifiably expose Him to reproach provided He refused to comply with the un-called-for demand.

Christians would shrink from the idea of praying for the sick on the one side of an hospital and not praying for those on the other. To reduce the whole project to an absurdity, we can conceive one body of men praying for one part of the ward, and another for the other part, and thus no choice left to God. True, there must be something like this when there is war between two countries—as, for instance, in the late war between France and Germany. But in all such cases God is judge, and may, we suppose, answer the prayers of the right side; nay, He may answer the prayers of both sides, giving the victory to Germany, and the trial to France, as a means of chastening her, and, as she profits by it, and continues to pray, raising her to greater eminence in years to come.

(3.) These considerations show the negative side. But I cannot close without opening the positive side. What then induces a reasonable man to pray? What reason has he for thinking that his prayers will be answered? He has abundant reasons, quite as convincing as the scientific man has for believing that if he proceeds on the method of induction he will make Nature reveal her secrets. But the evidence is not precisely the same in the two cases.

Every logician knows that there are various sorts of evidence, each convincing in its own department. There is one kind in physical science—of which Professor Tyndall is master; but another kind in mathematics; and yet a third kind in morals and in practical duty. A father, let me suppose, recommends his son to follow virtue, to be temperate, chaste, honest, and benevolent, and assures him that he will thereby enjoy a much larger amount of happiness. But young Hopeful professes not to be satisfied, and wishes to have clearer notions on the specific point, whether a youth indulging all his desires,

with only a little prudence, may not have as much enjoyment as one who restrains them? and he insists that an experiment be tried with the boys of a poor-house, one half of whom are allowed every indulgence, while the other half are exposed to restraint. The wise father would at once cut off all such discussion, by showing that virtue is a thing binding on us, that by its very nature it is fitted to lead to happiness, and by pointing to the issues of virtue and vice seen in common life.

We are entitled to treat in the same way the proposal made to us in "the suggestive letter" forwarded to the *Contemporary Review*. We show that prayer is the becoming expression of gratitude, the required confession of sins committed. We show that God commands us to pray; "men ought always to pray." It is a confessed duty of revealed religion; it is also a duty of natural religion—it is the natural and proper outburst of a heart under the influence of becoming feeling. We believe that He who thus commands us to pray will in His own time and way send an answer.

We should always be prepared to leave a sovereignty with God as to the means He may employ in answering prayer. I do not believe that God usually answers prayer by violating or even changing His own laws—I mean physical laws. In answering prayer, God will have a respect to His own laws, ordered so wisely and so kindly. A violent, capricious interference with them, even in answer to prayer, might work irremediable mischief. But surely God is not precluded from answering prayer because He hath instituted a wise economy in His physical government. I believe that God commonly answers prayer by natural means, appointed for this purpose from the very beginning, when He gave to mind and matter their laws, and arranged the objects with these laws for the accomplishment of His wise and beneficent ends, for the encouragement of virtue and the discouragement of vice, and among others to provide an answer to the acceptable petitions of His people. God, in answer to prayer, may restore the patient by an original strength of constitution, or by the well-timed application of a remedy. The two, the prayer and its answer, were in the very counsel of God, and if there had not been the one, there would not have been the other. The believer is in need of a blessing, and he asks it; and he finds that the God who created the need and prompted the prayer has provided the means of granting what

he needs. But what reason can we have for believing that this experiment devised in the Athenæum Club, Pall Mall, has a like place in the counsels of Heaven?

He prays for things agreeable to God's will. He will not pray for anything which God shows to be absolutely denied him. When his son is evidently dead, he will not pray that God would restore him to life in this world. As he prays for the sufferers on one side of an hospital, he will not be precluded from praying with equal fervency for those on the other side.

Led by such reasons to pray, he finds that his prayers are answered. His experience confirms his faith. Beginning the exercise in faith, he gains, as he continues, as abundant evidence of the power of prayer as of the power of any physical agent. In the course of years, and as he looks back upon his life, he can discover case upon case in which, unobserved by the world, his petitions have been granted; or rather, he perceives that as he prays in duty and in faith, his whole life is ordered by the Lord. It is especially so, when his requests are for progress in spiritual excellence. When his prayers are hindered, he sees that his moral progress is hindered. When his aspirations are fervent, he finds that his soul is filled with peace, with comfort.

The proposal made in the letter forwarded by Professor Tyndall, is evidently regarded as likely to be troublesome to religious men. If they accept, it is expected that the issue of the experiment will cover them with confusion. If they decline, they will be charged with refusing to submit to a scientific test. It may turn out, however, that all that the letter proves is an utter ignorance on the part of certain scientific men of the kind of evidence by which moral and religious truths are sustained. I believe that the time has come when the intelligent public must intimate pretty decisively that those who have excelled in physical experiments are not therefore fitted to discuss philosophical or religious questions. Persons who do not follow the appropriate method in physical science will not be rewarded by discoveries. Those who decline coming to God believing that He is, and that He is the rewarder of them that diligently seek Him, need not expect the blessings of religion. Professor Tyndall has faith in the ordinances of nature, and he and those who read his works have profited by it. I have no evidence that he has studied so carefully the method of earning fruit in the kingdom of grace as in the kingdom of

nature. But of this I am sure, that with a like faith in God, in His providence and word, as he has in science, he will reap a yet greater and more enduring reward.

JAMES McCOSH.

PRINCETON, NEW JERSEY, U.S.  
Aug. 5, 1872.

From Saint Pauls.

OFF THE SKELLIGS.

BY JEAN INGELW.

CHAPTER XXVI.

"Heaven doth with us as we with torches do,—  
Not light them for themselves;—for if our virtues  
Did not go forth of us, 'twere all alike  
As if we had them not." *Shakespeare.*

It was a hot afternoon when Anne and I reached Miss Tott's small house. How close and confined it was! how dirty and faded it looked! how dim the windows! and oh, the blinds!

"I am sure I shall detest this part of London," I said, when Anne and I were left alone in my bedroom.

"I dare say this is the closest and dirtiest part, miss," said Anne in her ignorance.

Miss Tott was very kind. My restlessness and my craving for action excited her observation directly, and she took me to church—a particular church that she liked, because the service was so earnest, she said, and so beautiful. She also took me to Covent Garden to choose flowers to help to decorate it. The services of this church, she told me, were so soothing to a spirit wearied with worldly dissipation and the fatiguing pleasures of society. Poor woman! neither she nor I knew anything about society. She led as dull a life as possible. I gathered that by dissipation she meant balls, parties, theatres, and all the crowd of a London season; but she could not afford anything of the sort, and I believe she thought she was soothed because some fashionable people, who really were overpowered with the fatigues of too much of this world's pleasure, felt that their minds were soothed.

I wanted not calm, but action. My mind was highly strung: I dreamed of the sea; I wanted my brother, and felt, day by day more keenly, how cruelly thoughtless it was of Mr. Brandon to have taken him away from me, just that he might more easily amuse him at the time. I wanted also to forget that scene in the wood. The fluttering of those leaves that let in wandering spots of sunshine I often heard

quite distinctly when I sat silent, and the passionate tones of the noble voice that had said ignoble things. It seemed too near me now, too prominent; it was almost intolerable sometimes, and I craved the power to dismiss the mental echoes of its lovely tones, and St. George with them, for ever. So in a very few days, having made up my mind that I could not be happy with Miss Tott, and that I should like to be near the British Museum, I sallied forth with Anne. We bought a map of London, called a cab, and were set down close to that veritable institution.

We stood on the pavement consulting our map, while the sentry looked on with a supercilious air. I decided that I would have lodgings in Russell Square or Gordon Square; so we proceeded to that locality, but did not find any families there who desired to take lodgers. We then bought a copy of the *Times*, and while we ate some soup in a pastry-cook's shop, we looked out for advertisements, and found several that seemed to promise what we wanted. As we left each of these houses, Anne said quietly, but without the least hesitation, that she was sure it was not at all the right place for me to live in, and she was also sure Mrs. Henfrey would agree with her. So I found I had Anne to please as well as myself, and we soon decided against them, and went home tired but hopeful.

The next day, however, in a street near the Museum we found a widow lady, formerly the wife of a curate in that immediate neighbourhood, and she gave us such unexceptionable references, and offered both board and lodging on such reasonable terms, that I thought I must venture to ask whether there was any disadvantage connected with her rooms which made it difficult for her to let them.

She frankly told me that there was: she did not take any boarders but ladies, and she gave music lessons every morning, and had a singing-class twice a week. Ladies did not generally like the music, and would not stay with her. Moreover, she had three little boys, who went to school in the neighbourhood, and therefore she dined at one o'clock, and could not change the hour.

The terms were very reasonable, and I was told that I should have the use of the small dining-room every day after two o'clock; but that all my meals, excepting my tea, I was to take with the family.

Mrs. Bolton, my proposed hostess, did not seem to believe that I would stay with her long,—hardly thought at first that I would come to her at all; but she could

refer me to three clergymen, she was an undoubted gentlewoman, and her house, though the furniture was to the last degree faded and shabby, was exquisitely neat and clean. I saw at a glance that Anne was contented, and as we retired she said she thought this was the kind of place Mrs. Henfrey would approve.

"Are you to describe it and Mrs. Bolton to her?" I inquired.

"Yes, ma'am," she replied.

I felt that I was not alone in the world after all; I was looked after through my maid. The idea was not unpleasing. Not one of that family, excepting Valentine, had proposed to correspond with me; but I was thankful to find that Mrs. Henfrey, who took so little notice of any one, was yet under the impression that it behoved her not utterly to lose sight of me. So we took those rooms, and in the course of a few days, having settled money matters with Miss Tott, we went to them.

Excitement, novelty, resolution, and expectation had hitherto kept me up. I had been busy, too, and was not aware that the first hour of idleness would be a trying one. So it was, however. We arrived, were welcomed, my boxes were taken upstairs, there was a dispute with the cabmen, my clothes were unpacked and laid in the drawers by Anne, and then she retired to her own little room, and I was left alone.

I was standing before the glass, as I well remember, putting on my brooch. It wanted an hour to tea-time, and I had nothing to do. I did not like to go downstairs in the strange house, so I had told Anne to call me when tea was ready.

The first odd sensations that I had were physical. My hand began to tremble so that I could not fasten the brooch, and looking at myself in the glass I perceived a sudden pallor, and began to feel very cold; an extraordinary sense of forlornness followed, and an undefined terror at the prospect which lay before me.

I went and laid myself down on the bed, and drew the quilt over me; a longing that was almost unbearable came and throbbled in my temples and sang in my ears, with the sound of the sea, and the washing of waves, and the voices and tramping of sailors' feet. I wanted Tom and my uncle; I wanted my own home, my cabin, my berth. This outer world that I had been thrust into was almost intolerable; but nothing could be done. I knew not in what waters the "Curlew" might then be rocking; but I could get back to the house I had come

from. I yearned for it unspeakably. I thought of Valentine and his father, and wanted to be near them. If it had not been for the bluebells, and all that I had suffered in the wood where they grew, I almost believe that in that hour of misery I should have fled from London and wended my way back again into the neighbourhood that I had so lately left.

But I did nothing.

Oh! how could I—how could I have come away to this desolate London? I moved my head on the pillow, and became conscious that such sudden weakness had overpowered me as left me no strength to rise. I shivered, and faintly longed to draw more clothes over me, but could not.

"What can this be?" was my bewildered thought. "Am I ill, and therefore nervous and terrified? or has this sudden knowledge of what it is to be desolate made me ill?"

Still lying quiet in my bed, with no power to rise, no power to shed tears, and feeling every limb grow colder, I heard Anne at last; but the sound of her voice was dim. I thought she was outside the door, but opening my dull eyes I saw her leaning over me. I could then rouse myself sufficiently to say that I did not feel well, and she presently brought a cup of hot tea and some bread and butter to the side of the bed; and when I failed to raise my head, she said, tenderly, "What is it, my dear, sweet, pretty lady?" and set down the cup, and, lifting me; laid my head on her bosom, began to chafe my hands and comfort me, drawing the blankets about me, and folding me in her strong motherly arms. Oh! how comfortable was the feeling of nearness to something that lived and cared for me. I drew myself close to her, and held her fast.

To my surprise her next words were, "You're not afraid, ma'am, are you?"

I was afraid, I answered.

"You have no call to be, ma'am. I've been expecting the time when you would break down. You've been too busy by half, thinking of all manner of things, and running about here and there."

I answered, "I could not bear to be idle. I did not wish to think about living alone till I was compelled to do it."

"Well, ma'am, but now you must think about it, because it has begun. You're not so badly off, are you, ma'am, as the disciples were when the Lord of glory told 'em He must leave them, and yet He said that He would send them a Comforter that should make them better off than they



had been with Him? Well, ma'am, we've not lost anything so dear as the seeing and hearing of the Saviour on earth; and yet if we pray the Father, He will send the Comforter to us as well as to them. So we have no need to feel as if we were desolate."

I tried to assent, and held her fast lest she should go, for her words were healing medicine to me. She gave me the tea. "Oh!" I said, "I don't know how to live by myself, away from every one that used to care for me."

I asked her to read to me. It was to be something in the Bible that would do me good. I let her make her choice, and to my surprise she began to read what I have always thought the most affecting chapter in the whole Bible, the first chapter of Ruth. It lost nothing by the grave, soft voice of reverent gentleness, nor by the slight provincial accent; and the moment the familiar narrative began, I felt such an anguish of sympathy with that ancient trouble and its mournful relation that my desire to bear up utterly gave way, and I wept with such passionate distress as seemed to be my heart's expression of its own sorrow, and of its aching over an earthly woe.

"Entreat me not to leave thee." No one had said so to me. Thinking of that, I wept yet more, and hid my face and sobbed with yearning unspeakable in the arms of my kind servant.

"O Anne!" were the first words I could utter, "I cannot help this."

"No, ma'am," was her answer, "and you should cry as much as you can; that's what you want; and then you will be ever so much better."

I did cry heartily, but did not feel much the better for it, though I did feel grateful to think of the kind of maid whom I had secured — a woman who, now that I was ill, made herself at once my guardian and my comforter.

She stayed with me that night, and the next morning, as my pulse was to the last degree feeble, she talked of sending for a doctor. That roused me, and I managed to get up and be dressed. That day, however, was a very dark day; all sorts of melancholy fears oppressed me, and anguish of heart at being so utterly away from every one who cared for me.

I remember little that passed. I lay on a small, hard couch, and looked out into the mews, or listened to Anne's reading and talking.

I could eat, I could sleep; there seemed to be nothing the matter with me but sud-

den sinking of heart, which took away my bodily strength.

On the third morning when I awoke, after a miserable night, I saw Anne enter with a little hamper. "From Mr. Valentine, ma'am," she said, with a smile. I felt roused to interest, and looked on while she opened it.

"How did he know my address?" I asked.

"I wrote, miss: I said I would."

She opened the little hamper. First came out a good deal of wet moss; then a glorious bunch of cut flowers, which it did me good to look at; then a pot with a geranium, covered with buds, and protected by more moss; lastly, a paper bag of new potatoes, and a letter folded up in brown paper. To describe the good it did me to lie all the morning looking at and smelling those dewy flowers would be impossible. The letter too amused me; it was as full of nonsense as it could hold; and I was glad to perceive that, though Anne had given my address, she had kept my illness to herself — thinking, perhaps, that it was my own affair, not that of my boy-lover, who all throughout his letter kept up his character to admiration, and concluded, by way of P. S., with a little sketch of a young man on one knee, presenting a huge nose-gay to a girl. A corner of the young man's pocket-handkerchief protruded from his pocket, and was conspicuously marked V. M.

In spelling and puzzling over this letter I spent some time. I then sat up and enjoyed my delicate new potatoes, and was truly grateful to find that my strength and spirits were returning.

I got up, came down stairs, and enjoyed some tea. Oh the welcome change! and oh the peaceful sleep that followed and lasted all night long!

I cannot say that during those dreary days any distinct trains of argument had passed through my mind which tended to prove to me that as solitude was my lot I had better be resigned to it; but I now felt very much resigned. Very different from the despairing sensations of my first waking in that house was the waking of this sunny morning. Anne had done me good, time had done me good, and above all the comforting reading and talking had done me good; and in two days — that is before I had finished the last of my new potatoes — I was able to take a walk, and in less than a week I was beginning to look for some little boys who were obliging enough to want to learn Latin.

I soon found that my only chance of

earning as much money as I wanted was to be a morning governess, for all the parents to whom I applied wanted to have their children taken care of for the whole morning. From nine till one was the very shortest time that I was asked to spend with any family; and for that amount of attention twenty pounds a year was about the average sum offered. This money would not have enabled me to learn wood-engraving, for which I had already found a master.

My dreams of giving an hour's lesson a day were completely overthrown; but twenty-five pounds a year I was determined to have; and at last I got it, from a certain elderly widower, whose eldest son was ten years old, but delicate, and not fit for school. There were two other boys and a girl, and I agreed to teach them from nine o'clock till one.

I had taken Anne with me, and she sat in the room where my elderly widower was conducting his examination as to my qualifications. "Is that your mother?" he asked when he had satisfied his mind.

"No, my maid."

Finding that astonishment at the notion of my having a maid was overpowering his weak faculties, even to the endangering of my prospects, I explained to him, that I possessed enough to live upon, but wished to learn an expensive art, and therefore must add to my income.

As he did not recover from his astonishment, I next told him where I was living; and after I withdrew, he came, like a careful widower, to speak to my hostess, and having ascertained from her that what I had said was true, he left a message to the effect that the sooner I could begin my instructions the better.

Accordingly I began to teach the very next morning. Anne went with me, and came to fetch me at one o'clock. I found my pupils very refractory at first; but by degrees I got them into good order, for happily there was no one to interfere. My employer was never at home; indeed from the day when he engaged me I saw him no more; and the nurse upheld my authority, and treated me with respect.

For the first fortnight of my governess life I was too much tired during the afternoon to do more than take a quiet stroll with Anne, or lie and listen to her reading; but after that, as vain regrets moved further into the background, I became stronger, and began to take my lessons in wood-engraving with great delight. But the philanthropy, the charity, the usefulness, where were these? I felt ashamed of

myself sometimes when I looked at Anne's quiet face, and considered how I had led her to believe that she should spend her life with me in works of charity and mercy.

I had been considering that I should like to have a district of poor people, and when I mentioned it to Anne I found her in possession of some information regarding the parish in which we were, and the clergyman whose church we attended. Mrs. Bolton knew the clergyman; he was in great want of ladies' help, both in the Sunday-school and among the poor.

Quite fearlessly and ignorantly, I immediately said that I would take a district and also a class in the school, and that Anne might have a class also, if she wished it. She was evidently delighted, and I felt pleased when I set off with Mrs. Bolton to call on the said clergyman, who proved to be a pleasant middle-aged man, and was quite willing to accept as much help as we could give; but shook his head at the notion of the district, remarking that I was "very young, very young."

Mrs. Bolton replied that my maid would always go with me.

"Well, well," he said, "I don't like to debar you from the blessed office of ministering to others; but the district just now vacant is down a close court; the people are rough, poor, untutored; and I can hardly accustom myself to the notion of a district visitor going about with a maid."

"I thought it would not be right," I said, "for me to go alone."

He smiled. "I quite agree with you," he said; and he went on, "I suppose I must allow it. I wish I could get older visitors, Mrs. Bolton. What sort of a person is this maid?"

Anne, who had walked with us, was sitting in the hall; I had her brought into the room where we were talking, and the moment he saw her his countenance cleared. "You wish to have a class, I believe?"

"If you please, sir; I should think it a great privilege."

"I have a class of little boys that no one likes to take."

"Any class, you please, sir. I have no wish to choose."

"Can you be punctual?"

Anne looked at me, and when I said that I would take care she had it in her power to be punctual, he answered, "Give her the power, and I think she will find the will," and he held out his hand to shake hands with her.

Our business was then arranged with great ease; no more doubts whether or not I should have the district, no more hesitation about my class; but I observed that though the instructions about these matters were ostensibly given to me, they were intended for Anne's edification quite as much as mine.

I cannot help laughing now when I think of the first visit we paid to that district.

I put some buns in my bag for the children, some tracts for the parents, and took with me a pencil and some paper on which to write tickets for meat and bread. We were not to give away money.

The first house in that court contained six rooms, in every room a family. Family No. 1, as we saw from the outside, had its lower panes stuffed with rags. We knocked at the door and entered.

A villainous-looking woman was sorting rags on the floor, and three ill-favoured girls were helping her; two sickly babies were crawling about half naked. The disgusting odour of the room cannot be conceived by any who have not entered such a one; and no wonder, for they were presiding over a heap of damp and filthy shoes, a heap of greasy silk, a heap of old rope, of threadbare cloth, and lastly, a heap of dusty tow that one of the girls was pulling out of the remains of a mattress.

The woman came forward, gave me a suspicious look, and asked me what I wanted.

I could scarcely breathe, partly for the vile smell, partly for the particles of tow. I was fain to ask her if she would like a tract.

"Can't read."

I looked towards the girls.

"None on 'em can't read."

"Would they like to learn?"

"No, they wouldn't."

"This is the district lady," Anne remarked.

"I knows 'em; often seen 'em with their worked petticoats. Never did me no good."

"Is there anything you're in want of?" I was fain to ask, and I fumbled for my pencil.

"We should like a bit o' tea and sugar."

So I wrote a ticket, and we meekly withdrew.

"O Anne," I said, "I am sure I shall never dare to go near that woman without giving her something;" and we were both so sick and faint with the odious, fetid smell that we stood a few minutes on

the stairs to recover ourselves before we knocked at door No. 2.

Door No. 2 opened into a little room not eight feet square, and by the fire sat a cobbler at his work, mending old shoes and burning the bits of leather he cut off from them. The smell of new leather burning is bad enough; but the smell of old leather burning is a smell to remember for ever.

The man begged our honours to come in, and we contrived to do so, bearing the atmosphere as well as we could. A snuffling noise arrested our attention; it seemed to come from the wretched bed, and indeed a woman was lying there under the clothes, as we soon perceived by the thrusting out of a very dirty hand.

"Your wife is ill?"

No; begging our honours' pardon, she was just a little overcome with the *drink*, and sleeping it off, the crathur. She been to Common Garden, she had, and brought a lovely barrowful of frew-it, and there it was.

There it was, indeed, in baskets under the bed! The man drew out first a basket of green gooseberries; then one of mackerel, anything but fresh; then several huge bundles of rhubarb; lastly, some broccoli.

Anne asked if they always kept the things they sold under the bed.

"Sure-ly," said the man; "where would we find a better place?"

Hopelessly filthy and ragged he was; the floor was caked with dirt. I should have liked to talk with him, but felt so much overpowered that I was fain to escape. Anne followed, looking pale and dispirited.

When we knocked at the other rooms our cobbler followed us to explain that the owners of the rooms were out. There was only one room occupied—that was the garret, for a woman was sick there. To her room we bent our steps, and opened the door. No bed presented itself; only a heap of clothing, and shavings, and a mat. On it lay a woman with a brown face, dull eyes, and white lips. She was rambling in her speech; and Anne, unable to breathe, rushed to the window and threw it up. The sweet sunshiny air came in, and the woman, who had just awoke, seemed at the sight of us to be trying to collect her poor scattered thoughts and speak coherently.

She longed for a cup of tea, and Anne promised she should have one,—leaving me to watch while she ran out to buy some.

In ten minutes she returned with some wood, lucifer matches, tea, sugar, a little loaf, and a mug with some milk in it.

She had bought the mug, and it was well she had, for there was no crockery visible on the bare shelf. She went and borrowed a kettle, made a fire, washed the poor creature's face and hands, set her up, and brought her the tea.

"I don't get no better," said the woman, moaning and scarcely appearing to be surprised at what passed.

"How can you expect it, my poor soul," said Anne, "when you're so lost in dirt?"

The woman ate slice after slice of bread and butter, and drank several cups of tea with eager relish. Then I asked her if she would let me read a chapter in the Bible to her, and she consented; but I seemed to read the chapter in a dream, for she had begged to have the window shut again, and the consequence was that when I had reached the last verse I fainted away, for the first and only time in my life, and became quite insensible.

I suppose Anne dragged me out of the room, for when I opened my eyes I found that she was seated on the stairs with me on her knee; and she was so pale that I wondered whether she would faint too.

There was something so ridiculous in our situation that we both smiled.

"O Anne," I exclaimed, "I would not be found here for a good deal. This is too ridiculous. What shall we do?"

"We certainly are beaten off the field this time, ma'am," said Anne.

We got up, and slowly went home, where we refreshed ourselves with a cup of strong tea and some biscuits. I began to perceive that these people were sunk too low to be reached by me. I could not hope to do more than give them bread and meat tickets, and I began to wish I had chosen some other useful work instead of a district.

Anne, however, was not of my mind. As she walked with me to give my pupils their lessons, she asked if she might visit the sick woman again. I said she might, and gave her half a crown; whereupon she departed, with a serene look of joy on her sweet plain features. All the real usefulness was evidently to be hers: I could neither clean rooms nor wash clothes, and both these things she meant to do.

When she was describing to me in the afternoon how she had hired an iron pot of the cobbler for twopence, and how a woman who had a tolerably decent room had agreed to take in our poor patient for the night, and help to limewash the walls

and ceiling, being paid for her work of course, Anne observed, "I feel now, ma'am, as if we should be of some use."

"We!" I exclaimed.

"Why, ma'am, you support me, and my time is yours; so if you choose to give it back to me, why you give it to them."

I said I would give her all I could of her time, and five shillings a week of the ten I was earning by my little pupils. The other five went for the lessons in wood-engraving.

In a few days Anne bought some coarse calico and a quantity of clean chaff such as is often used in her part of the country to make beds of. She made the calico into a bag six feet long and three feet wide, and this when sewed up with the chaff in it was a clean and decent thing to lie on. The sick woman's rags were then sold by her own consent, and we bought a very little cheap furniture for her; but Anne remarked of her that she was not poor, — at least she had no business to be poor — for when in health she earned about eleven shillings a week. She was what is called a decorator. She made ornaments, such as soldiers and footmen wear, doing the work at her own place, and having plenty of clothes and food when in health, but never laying anything by in case of illness.

In about ten days Anne proposed to me to come and see her. No one could have recognized her. She lay pale and gaunt on her decent bed; her room was sweet and fresh, her window clean. Anne left me with her, to go and look after another sick person, and the woman's eyes followed her; then as she shut the door, they opened wide, and she said to me with a gesture of awe, "Ain't she a rare one, missis?"

"Yes, she has been very kind to you, has she not?"

"Been everything, she has; but for all that she telled me truly as it was you that pervided the brass."

"Yes, I gave her the money. I liked to do that, for I could not wash and clean for you as she could."

"No, ye couldn't; I wouldn't let you come inside my place now, if it wasn't so clean."

"Yes, it is fit for any one to sit down in now. I hope you mean to keep it so."

"Mebbe I shall. She'll turn her back on me if I don't."

"She would be sorry, no doubt, after all the trouble she has taken; and you know we ought to try and please those who have been good to us."

"Nobody never was good to me but her — and you."

"Yes, some One has been."

"I expect you mean *Him*."

Before I had made up my mind what she meant by this allusion, which was made with a serious air, but no particular reverence, she added, "I never heerd tell on *Him* before she came and read out of her book." Anne had told me of this, to me, hitherto unheard-of ignorance, so I did not throw the woman back by expressing any amazement, but merely said that I had got a book like Anne's and would read to her, if she pleased.

"Well, missis," she answered, "I don't mind if ye do. I'd heerd a good lot about Adam and Eve, ye know, and I telled her to read that, if so be 'twas there."

"Well, and what did you think of them?" I inquired, hardly knowing how to meet such a degree of simpleness and ignorance in a great learned city, which one does not find in the poorest country district.

"Think on' em! Well, you see, she couldn't keep her hands off them apples, and got into trouble. Serve her right, that's what I think, for it wasn't the hunger druv her to it."

"But you don't think she was any worse than we are, do you?"

"Not worse than such as we; but gentlefolks are different."

"Yes, of course they are; for when gentlefolks do wrong they are worse than you are, for they are not driven by hunger, any more than Eve was."

The woman laughed, but not scornfully. "Well, missis," she said, "I should fairly like to know what you is iver druv to that was bad, or *her* either."

"Well, I have told lies, and though I have always had plenty to eat and money in my pocket, I have often been discontented and wanted other people's things."

"Call that bad! Lor' bless yer, that's nothing. We're the real bad uns; a'most all on us is bad. We're lost; that's what we are."

"Then you are just what the Lord, the Saviour, came to save. He came to seek and to save that which was lost."

"Well, now, if that ain't a'most the very same the other one said. Ye both talk alike."

"You ought to believe us, for you can see very plainly that we wish to be your friends."

"Ay! look what ye've done for me. Well, I'm willing to *oblige* ye. Is that book what they read in churches, missis?"

"Yes, the same book."

"Don't say so! Well, I am willing to oblige ye. I'll hear some more on't, if ye want me to."

Accordingly I read two or three of the parables to her. "And there was a certain rich man" impressed her strangely. I could perceive her secret wonder and curiosity. "Is that the sort of thing you expected our Lord to say?" I ventured to inquire.

"No, it ain't, — no. Do they read that in the church? Do they read it *up*?"

"Yes, certainly."

Then she laughed with evident enjoyment. "Well," she said, "it's a queer thing for the gentlefolks to hear, so 'tis."

"Yes," I answered; "but in this book you'll find that the rich generally get the worst of it in many ways."

There was nothing about "those rascally upper classes" here; if there had been, I should naturally have chosen something different to read. She was sunk in her own opinion — could not see that she, and such as she was, were of any account, and required to be set in her place again, and made to understand her own value.

By degrees, as Anne got one and another of these rooms into something like order, I was allowed to enter them. I set up a little club, and induced some of these people to pay money into it weekly, — many of them earned a good deal at different times, — but even this club had soon to be given up to Anne, for those men who were costermongers came home at night with their money, and if she would go for it then, she was welcome to it; if not, a good deal of it went for drink.

But I cannot chronicle this good woman's deeds. She devoted nearly her whole time to this wretched court — nursed the sick, taught several young girls to work with their needles, and got the men to lay up a good deal of money. All this was set in train before I had been in London six weeks, and at that time I received my first letter from my uncle, and gave up any lingering hope I might have cherished concerning the return to a sea life, at once and for ever.

There was very little in the letter; but I gathered that my uncle missed me, though he could not have me back again; that he was very uneasy about Tom, who was not conducting himself so as to please him. There was no letter from Tom to me, and my uncle had not heard from Australia.

If my relations took but little notice of me, Valentine seemed determined to take



a great deal. He wrote continually, sent me plants, which were always more or less damaged in the transit, and soon faded in the London atmosphere, sent me fish of his own catching, the latest news of Captain Walker and Lou, and the most authentic accounts of Prentice and Charlotte. For the latter I did not care; but I cared for the letters, and for the kind-hearted fellow who wrote them. It was sweet and flattering to me to think that there was somebody in the world who liked me well enough to wish to hear from me.

Poor Valentine! when I had been in London about six weeks, he wrote to me in very low spirits to tell me that his lingering hopes of being allowed to go to Cambridge were all over; for he had been spitting blood, and Doctor Limpsey had advised his father not to let him study, and to keep him at home. In his usual careless fashion he spoke of this symptom as if it was not of the slightest real consequence, and described his father's depression and Giles's anxiety as equally needless and provoking; in short, as a proof of what unreasonable people they were.

I believe the knowledge of his illness and the destruction of his cherished wish made me feel more affectionately towards Valentine. Indeed, he was the only person who took the trouble to bring himself before me; and his circumstances naturally led me to think of him a good deal, and gradually to feel far more real regard for him than I had ever done when we were together.

I led a singular life during that warm summer and autumn. I taught all the morning, I sat at my wood-cutting in the afternoon, and took a stroll with Anne in the evening. Now and then I went into the district myself, and marvellous indeed were the changes I beheld. No lady had hitherto been admitted within most of those dreary dens; the district lady had been met at each door where the inmates were at home, and had been accosted with appeals for bread, or the favourite want, "a bit o' tea and sugar;" but many of the parents were never at home during the day-time, — that is to say, earlier than five or six o'clock, — and the children were generally turned into the streets to pick up whatever came in their way. There were thirty-four rooms in my court, which means that there were at the very least thirty-four families, some of them being large ones. The people were chiefly either decorators or costermongers. The former kept reasonable hours; but the latter, as they were generally out at Billingsgate or

Covent Garden by three o'clock in the morning, frequently came home, slept away the hot summer afternoons (the afternoon being the slack time for their trade), and then rose and had a good supper, and if it did not rain and was sultry, sat in rows on the curbstone in the court and gossiped till midnight.

I have several times entered a room and found the whole family sound asleep at four o'clock in the afternoon. They seemed scarcely ever to trouble themselves either to undress or to wash. The men would lie on the rags in their good hobnailed boots, and the women in their shawls just as they went out of doors, for they seldom wore bonnets. Not one family in the court, as far as Anne could discover, earned less than seventeen shillings a week. Of course, when what the children picked up is added to this sum, it is evident that there ought to have been no desperate poverty, excepting where there was a bad husband, — that is, a drunken husband, for nothing else is anything accounted of in that class of people. It includes everything that one would suppose to be unbearable — specially beating of wives, for it was allowed on all hands that none but drinking men ever ill-used their wives to the extent of beating or giving them black eyes.

Till Anne went among them, some of them had absolutely never heard the name of the Saviour of mankind; but I never heard of one who did not know that there is an Almighty God, and of but one person who could not say the Lord's Prayer.

They never come into contact with any educated person; they are literally the servants of servants. The barrow-men and women supplied the lowest classes with their eatables. The decorators did not appear to have direct intercourse with army clothiers, but with men who went round to collect and pay for the work as they finished it.

I do not of course speak of the London poor in general, nor even of barrow-men and decorators in general, but only of the few families who came under my own observation and that of Anne Molton.

Anne Molton, as I presently found out, was a very remarkable woman; and as soon as I had fairly humbled my mind down to the point of being certain that she could do far better and far more for the poor than I could, I took the lower place, and earned the money for her to spend. She was not hasty, but as opportunity offered she won the goodwill of the "pariahs." She helped many of them to

limewash their rooms; she taught the women to mend their clothes, and the girls to sew, to cook, and to wash.

Washing, incredible as it may appear, was almost a new art in that miserable locality. It was the effect of the civilization she was introducing: for many of the men had absolutely no linen, and others had long disused it; but she sold them shirts at the cost price of the calico, and then taught their wives to take pride in washing and ironing them, and in making more.

It was the same with clothing for themselves and their children. Anne began by exhibiting coarse shirts made by herself and me. The women paid for them in small instalments of a few pence each week; then subscribed for more calico, and she cut it out for them, and taught some of them to work.

It was very striking to my mind to observe that, so far as that little court was concerned, almost all the misery, sickness, and poverty were owing to the faults of the people. They need not have been wretched.

The filth in which they lived made them crave liquor to overcome the faint sensations that close rooms and exhausted air must always cause. Drinking, and so having not enough money left to buy wholesome food, was sure sooner or later to cause sickness, and then came poverty, bitter and almost hopeless, for they pawned all their comforts, and it was rarely that they raised the money to get them out.

Many of them had no beds,—never had had. Their fathers and mothers before them had pawned them; the children, early accustomed to gather together the rags and sacks of shavings or old mats that formed the greater part of their furniture, would sleep on them without washing away any of the dirt that during many days they had contracted in dirty London.

This state of things we could not for several months do much to remedy, excepting in the case of the sick woman, who, when she got better, never sank again into dirt and desolation, but earned her weekly money, spent it according to Anne's advice, and lived decently.

I think it was when I had learned wood-cutting about four months that one day my usually silent master expressed himself greatly pleased with one of my performances, and asked whether I knew that I was learning the art much faster than most people did.

As he had never volunteered any praise before, but generally looked at my draw-

ings and my cuts with a silent elevation of the eyebrows, I had become accustomed to think that I surprised him by the slowness of my progress, and had risen early to work before breakfast, and had always spent two hours in the evening over my performances, in the vain hope that some day he would smile, instead of so provokingly indicating his amazement, and as I thought his discomfort. This remark astonished me, and I said that it was most unexpected.

"A friend of mine," he continued, "that I often show your proofs to, was saying, ma'am"—here he paused in his work to blow away some minute shavings which the tool was turning up, and went on with a deliberation which tired my patience greatly,—"he was saying that he'd give you five shillings apiece for cuts like these, if you wanted to sell 'em.

"Indeed," I exclaimed; "then wouldn't it be better to let this friend of yours have them?"

"I wouldn't," he answered, "if I was you."

"Why not, Mr. Curtis?"

"Why, miss, because they're worth more." He continued to examine my work with his glass; then laid it down and slowly plodded through the rest of his speech. "You see, miss, you can draw, that's where your talent lies. You've had good instruction too—consequently you've learnt no more of me than how to engrave your own drawings. There's hardly a wood-engraver that I know who does that. If they get a book to illustrate, they employ artists to make the drawings, and then they engrave 'em, and so you see two people have to live—the artist and the engraver. Now you don't draw first-rate by any means, but there's a vast lot of drawings engraved that are worse than yours."

"What do you advise me to do, then?"

"Why, ma'am, you want some first-rate drawing lessons. You want lessons for the next six months."

"I cannot afford them, Mr. Curtis."

Mr. Curtis elevated his eyebrows and said no more; but the next lesson he gave me he had a long fit of silence, and when he had set my work in order he grew red in the face and breathed heavily, as he often did when some mistake of mine, or some information to be given, compelled him to open his mouth. At last he said—

"My friend, miss, that I spoke to you about——"

"Yes, Mr. Curtis."

"He is an artist."

"Is he?"

"Yes, miss; he has a good many books to illustrate. He illustrated that book of arctic travels that I showed you, and that new work on natural history."

I wondered what was coming, but to have spoken would only have put my master out.

"He and I have been thinking of a plan," pursued Mr. Curtis.

"About me?" I exclaimed.

"Yes, miss; you see you want drawing lessons. Now he says, does my friend, that he would instruct you in drawing twice a week for six months, and let you see him draw on the block occasionally, if you'll pay him with all the engravings you do in the six months."

"Would you advise me to accept his offer?"

"Decidedly, miss, if you mean to go on taking lessons of me at the same time. He will lose by you the first three months; but unless we're both very far out, you'll make it up to him the second, for you'll know more of drawing by what he'll teach you, and more of engraving by what I shall."

"Then by that plan I make my drawings under his superintendence, and engrave them under yours? I still pay you half a crown a lesson, and I pay him nothing but the result of my work?"

"That is all, miss."

"But if I agree to this, what do you think I shall be able to earn at the end of the six months if I spend about four hours a day on the engraving?"

"About two pounds a week, perhaps, ma'am."

I took a few days to consider, and then decided to accept the terms offered; but, though I am not by any means of an idle disposition, or languid in the prosecution of my work, I certainly did feel so thoroughly overcome with fatigue sometimes, that I almost thought I must give my project up. I taught my little pupils from nine till one; that was the easiest part of my day; the wood engraving demanded at the least two hours a day, and the drawing no less. During August and the two following months I could work an hour before breakfast, and also in the afternoon, and the wood-engraving happily could be done by candle-light, so that I still retained time for my walk and for a little reading. I had still only the five shillings a week that I earned, and did not spend in lessons, to bestow in charity. But Anne did such wonderful things with it, that I came to think it a respectable sum. And at the end

of the first and second quarters, having spent in necessary outgoings the whole of my income to within a few shillings, I was fain to take Anne's own view of the matter, and allow myself to hope that supporting her, and letting her devote herself to the poor, was my appointed charity.

She still presided over my morning toilet, and she took me to, and fetched me from, my pupils; she also walked with me when I went shopping or took exercise: that was all. The rest of her time — that is, her morning and her evening — I gave her for the district, for her club, her lending-library, and her evening-school.

It was a great privilege, and I hope it raised the tone of my mind, to live with such a woman. Her contentment, her almost rapture in her work, were wonderful to see. She spent, I knew, at least half her wages on her charities; yet, though shabbily dressed, she was always neat, clean, and respectable in appearance; and the more she dwelt among the wretched hovels of the poor, the better and the stronger she seemed. This went on till the Christmas holidays; for I had three weeks' holidays at Christmas, and I enjoyed them quite as much as my pupils did — perhaps more.

Strange to say, I was decidedly happy; I am quite sure of it. I had no society; but, then, I was not fitted to shine in society. I had no amusements; but, then, I had not a leisure hour in which I could have enjoyed them. I was absolutely so busy, that I had no time for regrets; and when I went to bed, I was too tired to lie awake long and think.

In saying that I had no amusements though, I am ungrateful. I had the amusement of Valentine's letters, and very droll these were; very boyish of course, and sometimes not flattering, but graphic and full of fun. They were not, I suppose, like the letters of a lover — at least, they were not at all like such letters as they appear in books, and I never saw but one in manuscript! Valentine, in his letters, often apologized to me for not having written so soon as he meant to have done, by acknowledging that he had forgotten, and sometimes he gave as a reason for writing that he supposed I should be uneasy if I did not hear from him. Most natural things to be said by a brother; but not very natural to be felt by a lover. I was, therefore, the more to be pardoned for not considering Valentine to be my lover, and for treating him, as I always had done, with frank affection.

Affection I certainly felt for him in no

common degree. I was even willing to devote my life to him, in any other way than the way which he still often proposed.

One bitterly cold day, during my holidays, I had just dined; Mrs. Bolton was gone out with her little boys, and Anne, during a brief period of sunshine, was trying on a new gown, which she and I had just finished, for my wearing. It was the first I had had since coming to London, and Anne was congratulating herself on the fit, when the servant came up and gave me a card —

MR. VALENTINE MORTIMER.

"He's in the parlour, miss," said the servant, and disappeared.

A visitor — a visitor from Wigfield, too — was such an unexpected thing, that I stood dumb and motionless. Anne took out my best brooch, put it on, and had smoothed my hair, before it occurred to me that I must run down to see Valentine.

"How do I look, Anne?" I exclaimed, meaning, "Am I neat now, and fit to go down?"

Anne pulled a tacking thread out of my new gown, smiled, and said, "Well, miss, what with the dress, and what with the colour in your cheeks, I never saw you look better."

I understood that involuntary smile perfectly well, but had neither power nor inclination to remove the impression which had given rise to it.

I ran downstairs, and there stood the great long-legged fellow, with a boar round his neck. We shook hands, and launched into home talk directly.

St. George, he said, had brought him up for some further advice; but he made light of his symptoms, and looked so well that I began to agree with him, and think there could not be much the matter.

He soon began to examine the wood-engraving.

"Then your brother is in London?" I said, and I felt rather alarmed at the notion that he might appear.

"Yes; where do you think he is now? He left me at the doorstep here, and went to inspect the copper that Anne is having built in the district."

"Inspect the copper? What does he know about it?"

"Oh, it's just in his line; he is learned, you know, about model cottages, and estimates for schools, and all that sort of humbug."

"You should not call it humbug. But how did he hear of it?"

"Why, you mentioned it to me, didn't

you? — how your uncle had sent you ten pounds, and how Anne had hired a room for the neighbourhood to have their wash in — do their ironing?"

"O yes, I remember; but I did not think I had said anything about the copper, and that it wanted inspection, but it does, for it smokes and won't act. But how does he know the way to the district?"

"Oh, he has a natural genius for ferretting out dirty places. Dick has got a curacy in London — hard work, and no pay worth mentioning. It will be the delight of his little High Church soul."

"It appears to me that you are deteriorating!"

Valentine did not honour this remark with any notice, but went on —

"Sister is going to send Dick a hamper almost every week. She is afraid he should be starved. That fellow is a saint; but I don't see why he need pat the heads of the dirty beggar children with his bare hands."

"Does your brother ever do that?"

"No. He is a saint too in his way; but my dear Dorothea, there are simple saints in this world, and there are knowing ones."

---

From The Saturday Review.

#### FRANCE AND THE EMPERORS.

IF M. Gambetta has not achieved any great domestic success by his recent speeches, he has at least won a distinction precious above all others in the eyes of a Frenchman. The great monarchs of Europe have condescended to be afraid of him, and have intimated to the French Government that they cannot go on loving France with that remarkable affection which they have recently bestowed on her unless the dangerous Gambetta is put down. Russia has come forward as the spokesman of the rest, but Austria and Germany have intimated their assent. The three Emperors lately met at Berlin and decided that peace was to prevail in Europe; but if peace is to prevail, it must not be threatened from any quarter, and France especially must lie down and keep quiet. France with a President playing off one party against another, France borrowing huge sums of money and subjecting itself to new and burdensome taxes, France filling excursion trains to look at miracles, is a pleasant sort of country to contemplate, and not much more dangerous to peace than Sweden or Portugal.

But France with a *fou furieux* going about attending banquets and making speeches not totally destitute of political thought is alarming. There may be no real danger in it. The speeches of Gambetta do not delay for an instant the expenditure of the money wrung from France on the new fortifications of Metz and Strasbourg, or the compulsory conversion of Alsatians into Germans. But they ruffle the smoothness of things. They are like the sound of a distant barrel-organ to a great man who has determined to take a nap. They remind people in an annoying sort of way that France is not quite dead. Complaints from Germany on such a score might not be quite acceptable; but Russia is well known to be always ready with good advice to France, and to take the kindest interest in her affairs. It was in this spirit that the Holy Alliance, with Russia as its presiding genius, watched over the Government of the Restoration; and it was Russia that kept Louis Philippe in order, and developed the Conservative tendencies of the hero of the Revolution of July. France has never got any special advantage out of her Russian friendship, and M. Thiers was received with as much empty civility at St. Petersburg as at any other capital when he went to ask for aid to France in the extremity of her need. But directly there is a weak Government in France which strives to show that it is respectable and desirous of the good-will of foreign Powers, Russia is always ready to tell it what it is proper for France to do or not to do, and to suggest that something very awful will happen unless everything that Russia disapproves of is avoided. The Empire has many sins to answer for, but at any rate those Frenchmen who now blush to think that a member of their National Assembly may not speak in a French town without Russia intimating displeasure can scarcely fail to recollect that at any rate the Emperor stopped that sort of thing for a time, and that the lectures on French good behaviour delivered so persistently by the sovereigns of the Holy Alliance to the Governments of Charles X. and Louis Philippe, and now of M. Thiers were unknown for a few years at the Tuileries.

The speeches of M. Gambetta may or may not have been prudent in the mouth of a French politician at the present crisis. It might have been wise for a man who has such a good future before him to keep silence; or, on the other hand, it may have been wise in him to rescue the country from utter stagnation of thought.

That is a matter of purely French internal politics. But to English readers what he actually said seems in itself exceedingly harmless. The things that appear so dangerous to the Russian diplomatist are the ordinary platitudes of English after-dinner political talk. He encouraged his party to hold its own firmly, and to act with the vigour with which parties ordinarily act in countries where there is political freedom; but the objects at which he bade his party aim were objects which it is the comfort of Englishmen that their Constitution secures to them. Why should Russia object to a Frenchman saying at Grenoble what it would never dream of objecting to an Englishman saying at Bradford or Leeds? It might have been supposed that this would be the first thought that would occur to most Frenchmen, and that the French press, which is always singing the praises of France as the head of civilization and the glory of the universe, would have burst into a chorus of indignation at the impertinent interference of a foreign Power in the domestic concerns of France. On the contrary, the French press seems to have been very well pleased that Russia should have helped the trembling friends of order, and have assisted in snubbing the dangerous Gambetta. This can only be accounted for by the panic with which France has been stricken. The French live in deadly fear of the Commune, which has been only half killed, and of the Germans, who have beaten them till they shiver at the shadow of a rod. They get up and go to bed again, feeling as if they were always living on the top of a powder-magazine which any accident might explode. They will never breathe freely again until the indemnity is paid, and they once more get their country to themselves. M. Thiers touched exactly the right chord when he noticed M. Gambetta's speeches as chiefly objectionable because they might interfere with the speedy payment of the indemnity. If there seems a prospect of civil dissension in France, the funds fall, and money becomes tight, and people begin to be uneasy as to how they are to pay up the instalments of the loan. So vast a financial operation as that in which France is engaged naturally makes men timid, and the legion of speculators whom this operation has called into activity are only too glad of any support to prices, even though it takes a form so ignominious to France as that of a lecture from Russia, on the internal politics of the country. France is bound over to keep the peace



till the indemnity is paid, and until that is done the present highly artificial state of tranquillity may be made to last. But everything tends to show that there will be a totally different state of things when France is rid of its conquerors. A reaction from the present state of abject terror and acquiescence in humiliation will make itself felt; and although it is not very likely that the views of M. Gambetta will be acceptable to the majority of his countrymen, for whom they are too serious and highly pitched, yet if anything could gain acceptance for them, it would be the knowledge that Frenchmen are forbidden to entertain them under pain of the displeasure of the Czar.

But it is not to be supposed that the Emperors have interfered without having in their opinion some serious ground for interference. They too are afraid, or they would not trouble themselves about M. Gambetta. They would probably not break their hearts even if there were a civil war in France. The excursionists to Lourdes have been engaged in singing hymns far more provocative of civil war than any speech made by M. Gambetta. If Russia was merely anxious that France should have repose, it would be horrified to hear that crowds of Breton peasants have been touring about with cries of "Vive le Roi!" Or, if it were European peace that was supposed to be in danger, the excitement caused by the final separation of Alsace and Lorraine, and the enthusiastic reception of patriotic immigrants, might cause anxiety. M. About, of all men in the world, writing up the Jesuits simply because they are the enemies and victims of Prince Bismarck, might reasonably be a mark of greater indignation than M. Gambetta, who merely asks that Republicans under a Republic should have as much liberty as the subjects of a neighbouring constitutional monarchy enjoy. But the Emperors are not at all afraid lest France should become dangerous under a Legitimist Monarchy, or that M. About and the Jesuits should reconquer Metz. There is an unreality about Legitimacy and Jesuitism, and the sudden conversion of epigrammatic writers, which is comforting to the souls of Emperors. But they are afraid of M. Gambetta because there is no telling how many people in and out of France who more or less direct the course of events may not secretly or openly agree with him. Probably those to whom the interference of the Emperors seems natural would say that what they fear is

not M. Gambetta and his opinions so far as he chooses to announce them now, but the Red Republic which such men as he encourage, and into whose arms they are destined to fall unless their career is stopped at its outset. If this is what the Emperors mean, they must take a most gloomy view of the future of Europe. If after all the atrocities of the Commune, and the vengeance so slowly, and yet so sternly, wreaked on the guilty, the Red Republic is still so dangerous that the expression in France of what we should call constitutional opinions must be burked, lest other capitals than Paris should be set on fire, the good sense and courage of the leading Continental nations must be extinct. It may be true that the Emperors assume that, for the sake of Europe, France must be kept satisfied with the little game of parties at Versailles, and with the songs of pious excursionists, while it is carefully debarred from every approach to serious political discussion; but, if so, the assumption is certainly as humiliating to Europe as it is to France.

---

From Macmillan's Magazine.

#### AN HOUR WITH SOME OLD PEOPLE.

##### PART I.

##### SPRING IN A WORKHOUSE.

It was a soft delicious day in spring. The trees were budding into leaf, and some of the flowering shrubs in the gardens had already burst into blossom; and yet it was still so early that the recent inclemency of winter was fresh in the mind, and the brightness and loveliness of spring seemed the brighter and the lovelier by force of contrast. Purple tints rested on the hills, distant about ten miles from our dusty town; and who could help longing, on such a day, to "forsake the busy haunts of men," and exchange the hot pavement for their cool, elastic turf, and the varied hum of street-life for the soft, hushed murmurings of brook, and bird, and rustling leaf, the only sounds that break the silence of their beautiful solitudes!

There was a "languid sweetness" in the air, to which the bustle of market-day in a country-town seemed incongruous; and yet it was pleasant, too, to hear the busy market-folk, as they met in the streets, exchanging hearty sentences of congratulation on the beauty of the

weather, as though they were, every one of them, the happier for it.

Our errand conducted us away from the chief thoroughfares, gay with shops and thronged with prosperous well-to-do people, through back streets and bye-lanes, into a quarter inhabited by some of the poorest classes of the inhabitants. We found ourselves walking along a straggling, irregular street, in which almost every house was of a different size and pattern, and only like its neighbours in never getting above a certain limit of ugliness and dinginess, within which this class of habitation seems to be doomed to be built. How dirty were the tribes of children that we saw as we passed by, playing in the gutter; how untidy the rough-haired women who now and then stepped out of the cottage-doors; how ragged and uneven the pavement, where the entrance of some court, or alley, abutted on the main street; how little, in short, there was, of anything that was pleasing to the eye, and how much that stood out in strong and disagreeable relief against the bright background of sunshine and blue sky, making one's heart ache to think how little chance thousands of people have, of finding out how beautiful the world is.

What can the inhabitants of such a place as this know of spring? we felt inclined to ask. Can the freshness of the opening year touch such as these with any other feeling than one of mere physical satisfaction that it is warm, that the cruel cold of winter is gone by?

Almost every cottage window rebuked the question, for even the most neglected-looking, where the muslin blind, that no decent cottager would be without, was dirtiest and most ragged, where broken panes of glass were mended with newspapers, or stopped with rags, was not without a silent acknowledgment of the coming of spring, in the shape of some mug, or broken pitcher, filled with primroses, or daffodils, sometimes with a straggling bit of blackthorn stuck unsymmetrically in the midst.

Of how much happiness were these posies the token! In childhood the coming into blossom of certain flowers form epochs in the year, joyfully anticipated, and affectionately remembered. It is a white day when the earliest violet is discovered, and the first blossom on the hawthorn is worth any pains that must be taken to gather it, and is brought home with triumph! What plans are laid in school as soon as it is known that prim-

roses are out, for flower-gathering expeditions on weekly half-holidays! What delightful rambles when the day comes at last, through such lanes and fields as are attainable! What plunging of little hands into mossy banks, amongst the folded spires of the cuckoo pint, and the tiny fronds of baby ferns, each rolled up in its stiff green spiral!

Happy the children who have such innocent pleasures within reach! We were glad to know that less than a mile from the very dingiest and most brick-enclosed court or alley in that country-town were banks and hedgerows starred with thousands of primroses, as free to the raggedest street-child as to the best-dressed little boy or girl in the place. [Alas, we speak of several years ago, and since then brick has been laid to brick, and roof has succeeded to roof, so that we cannot help pausing with a sigh, to wonder how many of those primrose-banks are yet left!]

The above reflections brought us to a large, wooden gate, crowned with spikes, and set in a stone wall of unusual height, defended at the top with bits of broken glass. Not without some little difficulty we pushed the heavy gate open, and found ourselves on a neatly gravelled road, enclosing a semicircular piece of turf, and leading to a large red brick building, a "many-windowed fabric huge," whose entire exterior, down to the very bricks, seemed to our fancy to wear a stern air of official responsibility and formality.

Perhaps the framed placard which was almost the first thing that met our eyes, on crossing the threshold of this formidable-looking pile, and which contained a copy of some Act of Parliament relating to the treatment of REFRACTORY PAUPERS was hardly needed to make us aware that we were in the Union Workhouse. The placard was all in unreadably small print except these two words, whose large capitals seemed to glare at every one who entered in a severely admonitory manner.

The porter was out, and there was a little brown boy with a pale face and wistful eyes, that gave one the fancy that he must have been missing his mother without knowing it, all his poor little sickly life long, keeping the door in his stead. He knew us, and only smiled and pulled his forelock, as we crossed the entrance-hall and entered a brick passage, between whose high brick walls, pierced with numerous doors, and open to the sky, we must cross the interior of the Workhouse quadrangle.

The first wall to our left was the wall

of the dining-hall, and presently we passed the open door of the kitchen, and had a glimpse of a stout woman busied over the fire, assisted by another woman in workhouse attire, and by a couple of girls from the school. The elder girls, we are told, are sent by turns into the kitchen, to learn what they can of cooking.

After this, more brick passage and more doors, over one of which the inscription "Casual Ward" is to be noticed. Since the Amateur Casual wrote his celebrated paper we have often glanced with interest through the open doorway of this ward; but the arrangements are quite unlike those described in the London Workhouse, except in the one particular that the floor is of brick. The entire ward is occupied by a single cumbrous piece of furniture, which might perhaps be called a compound bedstead. It is a huge wooden structure, with a high division in the centre, from which it is partitioned off into a series of cribs, each of which is covered with a dark-coloured counterpane.

In a little while we found ourselves leaving the open brick passage for a covered way, which ended in a closed door, where we rang a bell, and were admitted into the Workhouse Hospital.

We seemed to have travelled a long way from the smiling weather outside, and to have reached an abode where day always wore a selfsame neutral tint. Save that we could see the distant blue of the sky far overhead, as we trod those brick-paved, brick-enclosed passages, what sign of the presence of spring had met us, since we entered the Workhouse door? Here, at last, we said to ourselves, going back to our former train of thought, we have come indeed to a region into which only some of the warmth, but little, or none, of the joy and beauty of spring can penetrate. And what if it were otherwise? What if this great building were some ancient palace of charity, of quaint and picturesque architecture, and standing in lovely garden-grounds, would any one of the inmates care for its beauty, or be one bit the happier for it, unless it contributed, in some measure, to personal comfort?

For who are occupying this building?

The sinful, the sorrowful, the suffering, the dregs and outcasts of society, who would die in the streets of vice and wretchedness, but for this refuge — beings, helpless and miserable, but not the less lawless and hard to rule; some few of the respectable poor, driven hither by temporary misfortune, and impatient to the last degree of the base contact into which it has

brought them; children, some orphans, some deserted by their parents, many of them the offspring of the vagrant and criminal classes; sick people, too poor, too low down in the social scale, to hope for admission to any other hospital; old people, whose improvident lives find here their natural conclusion, and other old people, who, in being brought here, are overtaken by a fate which they have dreaded more than they dreaded death, and against which they struggled blindly for years, until the helplessness of age conquered them.

The workhouse is like a desolate island in the midst of a threatening sea. It is the sole resource of countless human waifs and strays, struggling in an ocean of difficulties; and, like a desolate island to shipwrecked mariners, it is at once a refuge and a prison. They are always looking out for some vessel to come and fetch them off, or they "tempt the waves once more," in some frail boat or raft, of their own construction; or if, after all, they resign themselves to die where they are, they do it sadly and unwillingly. Food, warmth, and shelter; that they get in their desolate island, and for that, beaten and tossed by the waves of circumstance as they have been, they are often more thankful than those to whom the bare necessities of life are matters of course, can well understand; but their lot has been shaped for them, not by choice, but by hard necessity, and there is little that is attractive in its aspect.

What difference can the beauty of spring make in such imprisoned lives? What is nature's smile in the world outside to the inmates of a workhouse?

To some, it is true, spring is the season of escape. It is warm, winter is over, the time is come for them to venture to leave their refuge, and try to pick up a living for themselves elsewhere. But there are, in every workhouse, a certain number of helpless beings who have never known, and never can know, any other home; and there are the aged, and the incurably sick, who once knew liberty, but have been forced to exchange freedom for food and shelter — what is the use of spring to them, except to excite longings for what they cannot have?

Wait! Let us see. For we have nearly reached our destination. The hospital door has been opened, and our question, "May we go into the Infirmary Ward?" has received an affirmative answer. Here is the door, with the name painted up outside. Were you ever in such a place? No? Come in with us then, and see what it is like.

A large, oblong, four-windowed room, with whitewashed walls. Down each side of the room a row of beds, of which two or three have bedridden occupants; at the far end a fireplace, with a table near it, and some half-dozen old women dressed in blue gowns, and white aprons, and thick white cotton caps, sitting round in an irregular half circle, some on chairs, some on the ends of the nearest beds.

As we enter one of the old women round the fireplace rises, and comes forward with an exclamation of pleasure. She is a young person of about sixty-five, who has been selected for her youth and activity to have the care of the ward; that is, to use her own phraseology, it is her business to "do" for those old women who, through age and helplessness, can no longer "do" for themselves. And, on the whole, she is not inefficient. She is, perhaps in rather a rough way, but as well as she knows how, kind to her helpless charges, and she is certainly popular with them. For she is bright and lively, with a ready laugh, and a droll tongue, and "the old ladies do like to be put in Hannah's ward," we were once told.

Hannah advanced to meet us that day with a broad smile of welcome, and greeted us with the exclamation—

"There! to be sure! Ain't I glad you be come to-day!"

And as we advanced to the fireplace the others endorsed the sentiment with various more or less energetic expressions of satisfaction.

"Yes, Hannah was just a saying," observed one, "that she did wish you might happen to chance to come to-day."

"So I was," put in Hannah, rather quickly (she is a favourite of ours, but we must confess she *did* rather like to keep the lead in the conversation), "but I wasn't expectin' of 'ee much, 'cause don't 'ee see, 'tis such heavenly weather! I thought you'd be goin' out into the country somewhere. I would, I know, if I was a lady! Now I'll tell 'ee, ma'am, why I did want for 'ee to come. 'Tis 'cause o' the pear-tree in the master's garden. He's out in blossom, ma'am, and he do look that beautiful, I thought if you could but see it!"

What an answer to our thoughts! Did spring make no difference in a workhouse ward? Arrogant fancy! Why, every wrinkled countenance before us was looking brighter than usual merely because of the blossom on one pear tree.

Of course we said we should like of all things to see it.

"So you shall, ma'am, if you don't mind

standing up upon a chair. You can see un from these very windows if you do squeeze yourself against the wall a little, an' look sideways."

Who would not mount a chair and look sideways at such an invitation? We did so at once, and we saw the pear-tree—or rather part of *him*, for his full glory was not visible from that point of view. And when we descended from that exalted position, all the old faces were looking quite pleased and eager, and the most phlegmatic old woman in the room, who rarely opened her lips, or showed any interest in anything, astonished us by being the first to say, "Ain't he beautiful?" "Ah, but you can't see un so well as he did ought to be seen, not *therefrom* you can't," said Hannah regretfully; "you can't see but a part of un therefrom. But he do look lovely from the men's yard. Do 'ee know what I did do this mornin', ma'am? The door were open, so I just slipped in an' had a good look at un. I hadn' no business there, you know, but nobody didn' see me."

Hannah had a real love for flowers. Those three geraniums standing on one of the window ledges are hers, and she shows them to us every time we come, and points out every fresh leaf or bud with pride and satisfaction. She has her pet name for each of them. There is her beauty, her great beauty, and her little beauty, the last being a little slip of a plant growing in an old tin mug.

Once she was threatened with the loss of her plants. Somebody, at this moment I forget who, made an official progress through the wards, and the unlucky plants caught his eye, standing, as they did, on an unauthorized bit of board which Hannah had somehow contrived to add to the narrow window-sill to make it wide enough to support her pots, and he pronounced them to be untidy, and desired that they should be removed.

Hannah was furious! The plants untidy! The chief ornament of the room untidy! The chief ornament of the room to be removed! But as to that, they should never be removed; she should stand in front of her beauties and not let anyone touch them. Poor Hannah! She well knew her own impotence, even whilst talking defiant nonsense, and every now and then wiped away a tear at the thought that if her flowers must go, they must. But somehow or other that order for their removal was never executed. Perhaps the official personage who gave it relented when he saw how much pain it would cause. At any rate, Hannah's plants were

never touched, and continued to beautify the window-sill for many a long day after.

## PART II.

### WHAT WE TALKED ABOUT.

SOME years ago when we used to be in the habit of visiting the old women in H— Workhouse rather frequently, we used to notice, with some amusement, how curiously apt our conversation was to repeat itself; how, time after time, we found ourselves saying almost exactly the same things, and that, not from wearisome lack of matter, but because the old familiar topics recurred more naturally and pleasantly than any others.

Thus, after the chapter in the Bible, that used to be asked for as soon as the first greetings were over, had been read, first one and then another would almost always begin to inquire whether we had lately chanced to visit any of those neighbouring villages in which their homes used to be, and, if we had, they would proceed to name any families with whom they knew we were, or thought it within the limits of possibility that we might be, acquainted, and ask, did we know them, and when had we seen them last, and so on.

There was one frail old woman — she is gone to the Home beyond the grave now — who used to look so wistfully at us, if we answered her question whether we had been to E— lately, in the affirmative! We do not think that anyone near and dear to her was still living in her old birth-place, but she had acquaintance there, and now and then she used to ask leave to go out, and would make a pilgrimage there, perhaps to look at the graves of her dead in the village churchyard — who knows?

The last time she went was in early spring. All the winter she had talked of going to E— when the fine weather came, but when it arrived it found her so weak and failing, that Hannah and the others tried to persuade her that she was not fit for the exertion. But go she would.

"I shan't get no *stronger* if I do wait," she said, "an' I *do* want to go there once again."

So she went; but the eight-mile walk, four miles out and four back, was too much for her little strength. It was all she could do to creep back to the work-house, and, once there, she took to her bed, and, we believe, never left it till her death, which occurred some months later.

Poor Rachel! If we had but heard of her intentions beforehand, we might have helped her; but we knew nothing of it till

we chanced to visit the workhouse a few days after her return, and found her in bed, not greatly concerned at her exhausted condition, but full of triumph at having accomplished her wish of seeing E— again. She had not meant to walk the whole way back, but, by some mistake, the friendly cart in which she had reckoned on obtaining a place, started without her, and she set out on foot, thinking, however, that she would most likely be overtaken by some conveyance or other before she had gone far, and get the offer of a lift.

"But I'd bad luck," she said; "every conveyance as went past me were full. 'Twas *such* a disappointment to me every time I heard wheels, and thought I'd get took up. I could ha' cried last time I did hear summat comin', an' 'twas Squire M—'s carriage. I know if they'd known how tired I were they'd ha' took I up, for they be kind folk — an' there *was* room on the box, but they went by at a gallop."

Perhaps it will raise a smile when we go on to say that another favourite subject of conversation amongst these old women, was the Queen and the Royal Family! We do not know what private sources of information we were supposed to have respecting the doings of these august personages; but we were generally asked whether the Queen was quite well, and how all the Royal Family were going on, as though, as a matter of course, we must know all about them. Somebody or other had once given them a portrait of Her Majesty, taken out of some cheap illustrated paper, and this Hannah had fastened up over the fireplace, and regarded with great pride. Afterwards, when in the course of time the royal picture became defaced with smoke and dust, it was replaced by two smaller portraits of the Queen and the Prince Consort, and, the last time we saw the room, its bare white walls were further adorned with the likenesses of the Prince and Princess of Wales, and, if we recollect right, of Princess Alice.

How well we remember going to see them once, about a week before the Prince of Wales's wedding, and telling them of the various festivities with which it was proposed to celebrate that event.

"Well, I declare," said Hannah, "I wish I was twenty years younger, to enjoy it all! But I'll tell 'ee a secret, ma'am. 'We bain't goin' to be left out. Us old women is going to have our 'lumination so well as the rest! We be savin' up all our candle-ends out of our 'lowance o' candles, an' the messenger (you do know th' old man



what do go out wi' messages — gets us our snuff an' such when we've a few pence to lay out), he's a-goin' to bring us in some large pertaters; an' what do 'ee think we be goin' to do? I be goin' to scoop out them pertaters, an' stick the candle-ends in 'em, an' range 'em on the ledges o' the window. Ha! ha! ha! ha! I wonder what the Queen 'ould think if she knowed us old women was goin' to have our 'lumination too."

And she burst into a hearty fit of laughter at the idea, in which almost everybody joined. "Nor we ain't goin' to want (*i.e.* lack) our feast neither," Hannah continued. "I don't mean the doin's they be goin' to have for *all* the workhouse folk, that ain't much good to *me*. My dear soul! when you be goin' on for threescore an' ten, an' not a sound tooth in your head, roast beef isn't much enjoyment to you. You do know what we do like, don't you? 'Tis our cup o' tay. We've got some of Mrs. —'s tay, which we do consider the best tay we do ever get — I be very choice over it, I do assure 'ee. An' we be goin' to drink the health of the Prince an' Princess in a cup of tay, an' long life to 'em both, I say."

The ordinary workhouse beverage is coffee, which is, we believe, more economical than tea. We never heard the old women make any complaint about it, but we do not think they can have liked it much, because of the jubilation with which a present of tea was always received. But don't you think that half the satisfaction of the cup that "cheers but not inebriates" must have been neutralized to them by *having to drink it out of a tin mug*? We appeal to any lady who reads this paper. Would you not, madam, reject with scorn that five-o'clock cup of tea which is your pet luxury, if it were offered to you in any such vessel? And supposing refractory paupers have a tendency to break everything that is provided for them which necessitates tin in their case, is that a valid reason why quiet old people should go without cups and saucers?

These old women, too, have a rooted detestation of communism, and establish their little rights of property, unacknowledged by authority, but not the less strictly respected amongst themselves, to every individual thing they use. Exactly alike as those tin mugs appear to your inexperienced eyes, we believe that each old woman could, and would, swear to the personal appearance of her own particular mug in any court of justice. They like to play at having something of their own;

and why not? What instinct more natural to old age! And would any deeply essential rule of poverty be outraged if they did actually possess a few trifles of their very own? — if, for instance, each old woman had her especial cup and saucer, saved, it may be, out of the wreck of her household goods, or the gift of some friend or visitor.

Nor do we suppose that it would be against any imaginable principle of justice or prudence, if a few arm-chairs and footstools, perhaps even a bright-coloured rug to lie in front of the fireplace, were to find their way into the infirm wards of our workhouses. We do not mean that the Board of Guardians should provide these articles; but we see no reason why the gifts of kindly-disposed persons to the poor should not sometimes take this shape.

There is a fashion, however, even in doing good, and somehow or other the aged poor are not favourite objects of popular benevolence. It is rather a curious circumstance that in the conspectus of London charities published some time ago in the *Times*, the sum annually expended on the relief of the aged fell short of that spent on any other kind of charity; and, only the other day, we heard of a suggestion on the part of a most estimable kind-hearted gentleman, who, we feel confident, never in his life intentionally dealt hardly by anybody, that it would be a *very desirable reform* to divert to the pet object of the day, "educational purposes," a certain bequest which was being wasted (according to the intentions of the testator, of course; but who at this enlightened period cares about the intentions of the testator?) in pensions to the aged poor.

Well! we must not quarrel with nature. We cannot help feeling more interest in the little child just starting on life's journey, for whom we think we can do so much, than it is possible for us to do in the travel-stained old pilgrim, on the very brink of another world, for whom we know we can do so little. Nevertheless, the little we can do should at least be done; and does it not strike one that if to the sturdy tramp, who willfully encumbers the rates, the workhouse should be made more of a prison than a refuge, to the aged poor, who have come there to die, it should no less certainly be made more of a refuge than a prison?

There are the windows, for example; perhaps some one reading the first part of this paper, may have exclaimed at the idea of having to mount a chair to see

out of window, "Windows are not usually placed at such an inconvenient elevation."

Yes; in the workhouses they are. Probably the very first thing that would strike a stranger on entering such a ward as I have been describing, would be the curious anomaly that all its four windows are situated so much nearer to the ceiling than to the floor, that they look like windows down to the ground reversed, and turned into windows up to the ceiling. They are, of course, as useful, as mechanical contrivances for admitting light, as any other windows; but beyond that, the people who by the laws of gravitation are compelled to reside, not upon the ceiling but upon the floor, cannot possibly derive much pleasure or advantage from looking out of them.

Of course, there are reasons, and, we doubt not, sufficient reasons, for this peculiar style of architecture. A great many very unuly and troublesome inmates are apt to find their way into workhouses, and inaccessible windows may, very likely, be a wise arrangement as far as they are concerned: Another reason, perhaps, may be that when the windows are thus packed up aloft, more space to arrange the rows of beds is acquired, and more certain freedom from draughts obtained; but it is a plan that makes a room look uncommonly dull, and often have we wished that we could drag down even a single one from its lofty situation to a height at which it would be possible for the old people to look out, as well as for the light of day to come in. Might not such a sin against outward uniformity be forgiven in consideration of the letting in of a little more brightness upon some very monotonous lives?

Women of sixty-five and upwards are not the material out of which refractory paupers are made. They have been driven to the workhouses by the pressure of extreme poverty and the infirmities of age: should we not try to make the refuge in which their short remaining span of life is to be spent as pleasant to them as we can? The "smile of home," indeed, we cannot give them; but such minor adjuncts to happiness as a bright room, with cheerful windows, and exemption, as far as is consistent with good order, from such workhouse regulations as have somewhat of a penal aspect, do lie in human power to withhold or to bestow.

Hannah's invincible liveliness always seemed to us to have a sensible effect on the spirits of those around her. There

was quite a marked contrast between the tone of her ward and the next, where the woman who held a corresponding post to hers was depressed and querulous, and generally talked about her rheumatism. Yet even in Hannah's ward, the element of melancholy was not absent. Far from it. It was but thrown a little into the background. For example: to take ten or a dozen old people and shut them up together in a large room may be the only way of sheltering them when utterly destitute, and does not work badly on the whole; for in spite of the universal dislike to coming in, they do not appear unhappy, and are often wonderfully cheerful and contented; but it does not strike one as the *natural* mode of providing for the comfort of the aged, whose infirmities have a tendency to unfit them for social life, and to render them irritable, querulous, and exacting; so there is nothing very astonishing in the fact that many mope and fret for weeks after their first entrance, and some *never* get over their misery at being parted from their relations, and their intense dislike to being herded with others.

I remember one old woman of this description, who used to sit in the corner on one side of the fireplace in Hannah's ward. Her right arm was paralyzed, but that was not the grief that caused the ready tears that used to spring forth at the mere question, "How are you to-day, *Jemima*?"

"I don't know how I be, an' I don't seem I cares! *They* haven't been to see me this week. They puts me in here, an' forgets me. Oh, ma'am, I be so unhappy here!"

"There, that's how you do always go on," interposes Hannah. The words sound harsh, but they are not spoken unkindly, and, oddly enough, do not seem to offend. "Your daughter-law can't be for ever runnin' over to see an old woman like you. Don't be so unreasonable; I dare say she'll come to-morrow. I declare you ain't a bit reconciled, though you've been here two years."

"No, I ain't a bit reconciled, an' I never shan't be," weeps poor *Jemima*, lifting her apron with her unmaimed left hand, to wipe away her tears.

Here is another instance of the same feeling, pitiable enough, though it does not excite the same compassion. Look at that stately old woman, propped up in bed with pillows, who makes an imperative sign that the lady is to come and speak to her. What an expression of settled discontent there is in her face!

"I'm very glad to see you come in, ma'am," she says in a complaining tone, "I'm sure 'tis a pleasure to see *anybody* come in. I'm not treated as I ought to be, ma'am,"—lowering her voice to a whisper—"I oughtn't to be here at all. I've paid rates myself, I have, an' had things so different. 'Tis harder on me than 'tis on any of them! I'm sure I feel quite ashamed that a lady should see *me* in such a place."

It is curious to see how often people get what they claim. We used to fancy we could perceive that this self-asserting personage received quite the lion's share of attention and respect from the others. They addressed her as Mrs. H—, instead of calling her by her Christian name, and even Hannah seemed to defer to her.

Do you hear a faint, catching sigh from the other side of the room—a sigh that would have been a groan if the expression of suffering had not been checked by the consciousness of the presence of others? Let us go to the bed from whence it comes. There lies a woman, younger, perhaps, than some of the rest, but chained to her couch by some acutely painful, lingering disease. What a patient, pain-drawn countenance! The pale lips absolutely smile an answer to your greeting, though the voice is so faint you must bend down to catch the words.

"It is rather a bad day with me to-day, ma'am; but I suffer always. I seem sometimes I can't hardly bear myself. I hope the Lord 'll send for me soon . . . but I seem 'tis so long to wait."

Ah, yes! two or three years of utter helplessness, of almost constant pain, in a workhouse ward amongst strangers, with everybody she cares for either far away or gone to a better land, must seem long indeed. "God grant her speedy release," you say in your heart as you turn away, pained at the sight of pain that you can neither relieve nor alleviate.

But it is time to say good-bye and leave the workhouse; perhaps, indeed, you may even now be murmuring against the tediousness of having been kept there so long a time. But do not grudge it! In the caged monotony of these old women's lives, the coming in of a visitor now and then makes a welcome break, and gives so much pleasure. And, after all, the predominant impression that we carry away with us from the door of the hospital will not be a gloomy one. For those old women seemed

wonderfully happy and contented on the whole; and if we have hinted, in passing, at one or two little matters in which they might be made more comfortable, we must not forget that in a far more important matter, and one with which not merely their comfort, but their happiness, was most closely bound up, their lot was fortunate indeed. We refer to the large and overflowing measure of kindness with which they appeared to be treated by the hospital authorities.

They used to talk to me of the doctor as if he were a personal friend of their own, and the kindly interest which he took in all their little concerns was evident, by the way in which his opinion used to be quoted, *à-propos* to almost everything. As to Hannah's plants, we think he must have come to regard them as supplementary patients, so continually did he appear to be asked to prescribe for their health.

And then there was "nurse!" If you were to ask the old women if "nurse" were kind to them, they would be almost indignant at so cold a question. "Kind!" we think we hear out-spoken Hannah ejaculate. "Kind! why, she's just a mother to us!"

As we write, there rises before our mind the recollection of one of the very kindest faces that it has ever been our happiness to behold; the face of a woman who has grown old amidst the toilsome duties of her post, but who, in all the years she has spent in the workhouse, has never ceased to put such a warm, loving heart into the performance of those duties, that for her they have never stiffened and hardened into an official routine. Hers was that service of the heart which money cannot buy, but which springs unbidden wherever there is an unfailing fount of that divine pity for the sorrowing and the suffering which is, indeed, "akin to love."

The touch of her kind hand, the sound of her kind voice—these are the last impressions that we carry away with us, as we retrace our steps through the long brick passages; and glad indeed we are to think, as we come out into the open air, perhaps with a new, keen sense stirring at our hearts, of the beauty of the outer world, and the preciousness of personal liberty, that, after all, the sunshine is not exclusively to be found outside: there is sunshine, and that too of the best sort, within those walls we have just left behind us.

From The Spectator.  
A NEW THEORY OF VOLCANOES.

THERE are few subjects less satisfactorily treated in scientific treatises than that which Humboldt calls the Reaction of the Earth's Interior. We find, not merely in the configuration of the earth's crust, but in actual and very remarkable phenomena, evidence of subterranean forces of great activity, and the problems suggested seem in no sense impracticable, yet no theory of the earth's volcanic energy has yet gained general acceptance. While the astronomer tells of the constitution of orbs millions of times farther away than our own sun, the geologist has hitherto been unable to give an account of the forces which agitate the crust of the orb on which we live.

A theory has just been put forward respecting volcanic energy, however, by the eminent seismologist Mallet, which promises not merely to take the place of all others, but to gain a degree of acceptance which has not been accorded to any theory previously enunciated. It is, in principle, exceedingly simple, though many of the details (into which we do not propose to enter) involve questions of considerable difficulty.

Let us, in the first place, consider briefly the various explanations which had been already advanced. There was first the chemical theory of volcanic energy, the favourite theory of Sir Humphrey Davy. It is possible to produce on a small scale nearly all the phenomena due to subterranean activity, by simple bringing together certain substances, and leaving them to undergo the chemical changes due to their association. As a familiar instance of explosive action thus occasioned, we need only mention the results experienced when anyone unfamiliar with the methods of treating lime endeavours over hastily to "slake" or "slack" it with water. Indeed, one of the strong points of the chemical theory consisted in the circumstance that volcanoes only occur where water can reach the subterranean regions, or as Mallet expresses it, that "without water there is no volcano." But the theory is disposed of by the fact, now generally admitted, that the chemical energies of our earth's materials were almost wholly exhausted before the surface was consolidated.

Another inviting theory is that according to which the earth is regarded as a mere shell of solid matter surrounding a molten nucleus. There is every reason to believe that the whole interior of the earth

is in a state of intense heat; and if the increase of heat with depth (as shown in our mines) is supposed to continue uniformly, we find that at very moderate depths a degree of heat must prevail sufficient to liquefy any known solids under ordinary conditions. But the conditions under which matter exists a few miles only below the surface of the earth are not ordinary; the pressure enormously exceeds any which our physicists can obtain experimentally. The ordinary distinction between solids and liquids cannot exist at that enormous pressure; a mass of cold steel could be as plastic as any of the glutinous liquids, while the structural change which a solid undergoes in the process of liquefying could not take place under such pressure even at an enormously high temperature. It is now generally admitted that if the earth really has a molten nucleus, the solid crust must, nevertheless, be far too thick to be in any way disturbed by changes affecting the liquid matter beneath.

Yet another theory has found advocates. The mathematician Hopkins, whose analysis of the molten-nucleus theory was mainly effective in rendering that theory untenable, suggested that there may be isolated subterranean lakes of fiery matter, and that these may be the true seat of volcanic energy. But such lakes could not maintain their heat for ages, if surrounded (as the theory requires) by cooler solid matter, especially as the theory also requires that water should have access to them. It will be observed also that none of the theories just described affords any direct account of those various features of the earth's surface — mountain ranges, table-lands, volcanic regions, and so on — which are undoubtedly due to the action of subterranean forces. The theory advanced by Mr. Mallet is open to none of these objections. It seems, indeed, competent to explain all the facts which have hitherto appeared most perplexing.

It is recognized by physicists that our earth is gradually parting with its heat. As it cools it contracts. Now if this process of contraction took place uniformly no subterranean action would result. But if the interior contracts more quickly than the crust, the latter must in some way or other force its way down to the retreating nucleus. Mr. Mallet shows that the hotter internal portion must contract faster than the relatively cool crust; and then he shows that the shrinkage of the crust is competent to occasion all the known phenomena of volcanic action. In the dis-

tant ages when the earth was still fashioning, the shrinkage produced the *irregularities of level* which we recognize in the elevation of the land and the depression of the ocean-bed. Then came the period when as the crust shrank it formed *corrugations*, in other words, when the foldings and elevations of the somewhat thickened crust gave rise to the mountain-ranges of the earth. Lastly, as the globe gradually lost its extremely high temperature, the continuance of the same process of shrinkage led no longer to the formation of ridges and table-lands, but to local crushing-down and dislocation. This process is still going on, and Mr. Mallet not only recognizes here the origin of earthquakes, and of the changes of level now in progress, but the true cause of volcanic heat. The modern theory of heat as a form of motion here comes into play. As the solid crust closes in upon the shrinking nucleus, the work expended in crushing down and dislocating the parts of the crust is transformed into heat, by which, at the places where the process goes on with greatest energy, "the material of the rock so crushed and of that adjacent to it are heated even to fusion. The access of water to such points determines volcanic eruption."

Now all this is not mere theorizing. Mr. Mallet does not come before the scientific world with an ingenious speculation, which may or may not be confirmed by observation and experiment. He has measured and weighed the forces of which he speaks. He is able to tell precisely what proportion of the actual energy which must be developed as the earth contracts is necessary for the production of observed volcanic phenomena. It is probable that nine-tenths of those who have read these lines would be disposed to think that the contraction of the earth must be far too slow to produce effects so stupendous as those which we recognize in the volcano and the earthquake. But Mr. Mallet is able to show, by calculations which cannot be disputed, that less than one-fourth of the heat at present annually lost by the earth is sufficient to account for the total annual volcanic action, according to the best data at present in our possession.

This would clearly not be the place to follow out Mr. Mallet's admirable theory into all its details. We must content ourselves with pointing out how excellently it accounts for certain peculiarities of the earth's surface-configuration. Few that have studied carefully drawn charts of the

chief mountain-ranges can have failed to notice that the arrangement of these ranges does not accord with the idea of upheaval through the action of internal forces. But it will be at once recognized that the aspect of the mountain-ranges accords exactly with what would be expected to result from such a process of contraction as Mr. Mallet has indicated. The shrivelled skin of an apple affords no inapt representation of the corrugated surface of our earth, and according to the new theory, the shrivelling of such a skin is precisely analogous to the processes at work upon the earth when mountain-ranges were being formed. Again, there are few students of geology who have not found a source of perplexity in the foldings and overlappings of strata in mountainous regions. No forces of upheaval seem competent to produce this arrangement. But by the new theory this feature of the earth's surface is at once explained; indeed, no other arrangement could be looked for.

It is worthy of notice that Mr. Mallet's theory of Volcanic energy is completely opposed to ordinary ideas respecting earthquakes and volcanoes. We have been accustomed vaguely to regard these phenomena as due to the eruptive outbursting power of the earth's interior; we shall now have to consider them as due to the subsidence and shrinkage of the earth's exterior. Mountains have not been upheaved, but valleys have sunk down. And in another respect the new theory tends to modify views which have been generally entertained in recent times. Our most eminent geologists have taught that the earth's internal forces may be as active now as in the epochs when the mountain ranges were formed. But Mr. Mallet's theory tends to show that the volcanic energy of the earth is a declining force. Its chief action had already been exerted when mountains began to be formed; what remains now is but the minutest fraction of the volcanic energy of the mountain-forming era; and each year, as the earth parts with more and more of its internal heat, the sources of her subterranean energy are more and more exhausted. The thought once entertained by astronomers that the earth might explode like a bomb, her scattered fragments producing a ring of bodies resembling the zone of asteroids, seems further than ever from probability; if ever there was any danger of such a catastrophe, the danger has long since passed away.



GERMANY AND DENMARK. — Judging by an article, attributed to the President of the Norwegian Parliament, Herr Sverdrup, which has been republished in several of the Swedish papers, the efforts of Denmark to recover the Danish portion of North Sleswick do not meet with much sympathy in the other countries of the Scandinavian peninsula. "Is it France, Russia," says this article, "or is it Germany, on whose support we should rely in the future? Although this question is of supreme importance to all three of the Scandinavian nations, the power of deciding it — for the present, at least, — is in the hands of Denmark. After the great revolutionary struggle in Europe was over, Denmark was the only one of the Northern States whose position was not clearly defined. She ruled over a portion of the German nation, and over part of the Norwegian nation — Iceland; and it was to be expected that such an abnormal state of things must lead to misunderstanding in the end. . . . In the treatment of the difficulty regarding North Sleswick two facts should be borne in mind; first, that the mistakes committed by Danish Sovereigns in Sleswick were approved by the Danish people; and second, that, chiefly for the above reason, the Germans are not conscious of having done an injustice to Denmark in the question of Sleswick. These facts should lead Denmark to regard the question from another point of view; especially as it should be remembered that the future relations of the Scandinavian peoples with Germany must in a great measure depend on the attitude which Denmark takes up in this matter. . . . If we ask ourselves whether our national mission leads us to France or to Germany — to the Slavs or the Germans — the answer cannot be doubtful. Our national development irresistibly leads us to the people whose blood and religion are the same as ours, from which we received the first principles of our faiths and which is related to us, both by race and by modes of thought. If this be so, Denmark's attitude towards Germany should be different from what it is. The language which Germany now hears from Denmark is the language of hatred, and Germany naturally understands and resents it."

Pall Mall Gazette.

THE *Cologne Gazette* says that one of the wonders of the arsenal of Metz was a monster cannon 15 feet long and 25,000 pounds in weight, cast early in the sixteenth century, by order of Richard of Greiffenklau, Elector of Trèves. The French found it, in 1799, at Ehrenbreitstein, carried it off as a trophy, with 189 others, and deposited it at Metz, where the Germans after the late siege expected to find it. It had been taken to Paris, however, and placed in the Museum of Artillery, where it now remains. The enormous gun bears the following inscription in old German: —

Der Greiff heiss ich,  
Meinem gnedigen Herrn von Drier dien ich.  
Wo er mich heisst gowalden,  
Will ich Dorn und Mauern spalten.  
Simon goss mich, 1523.

(I am called the Vulture;  
I serve my gracious Lord of Treves.  
Where he orders me to shoot  
I batter doors and walls.  
Simon cast me, 1523.)

The French *Illustration* has published an engraving of the celebrated gun which the Germans, for the best reasons in the world, did not take at Metz. But the Germans find some consolation for their loss in the fact that the French artist, ludicrously ignorant of the German language, has written beneath his picture "Cast by Simon Gossnich, 1528."

Pall Mall Budget.

THE COLOUR OF THE METALS. — The rays thrown off from a coloured object are mixed more or less with white rays, because the light illuminating the object is incompletely decomposed. The colour of a brightly polished metallic surface is usually invisible, because the coloration due to decomposed light is disguised by the more powerful reflected light. As moreover attempts to develop the actual colour of a metallic surface by reflecting white light a great many times from it fail through the loss of the coloured light by dispersion, Seeley has proposed a modification of the experiment. As, when white light is decomposed, the reflected coloured ray is complimentary to that which is transmitted or absorbed, he recommends the examination of solutions of metals in a fluid that is without chemical action on them. For the alkaline metals he used dry liquid ammonia, in which they slowly dissolve, forming a solution that appears blue by transmitted light; and he concludes therefore that the colour of these metals by reflected light is red like copper. (*Der Naturforscher*, No. 36, 289.)

Academy.

WE are assured that the following story is true: — The visiting justices of a certain inland county were inspecting a lunatic asylum. A female patient handed to one of them a paper to read in vindication of her sanity; after perusing a part of the document on the spot, the justices put it aside for the time being, coming to the conclusion that the very phraseology of the writer was conclusive proof of her lunacy. Upon a subsequent and more careful analysis of the petition it was discovered that the sentences which had so struck the justices as conclusive of lunacy were taken verbatim from a leading article in the *Daily Telegraph*.

Pall Mall Gazette.